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CLINICAL MEDICINE

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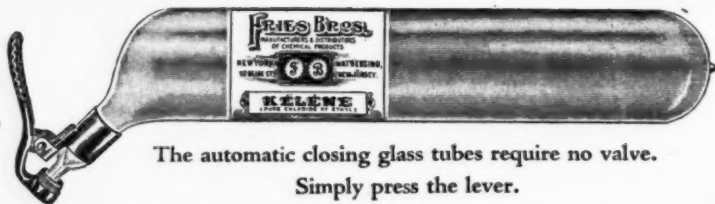
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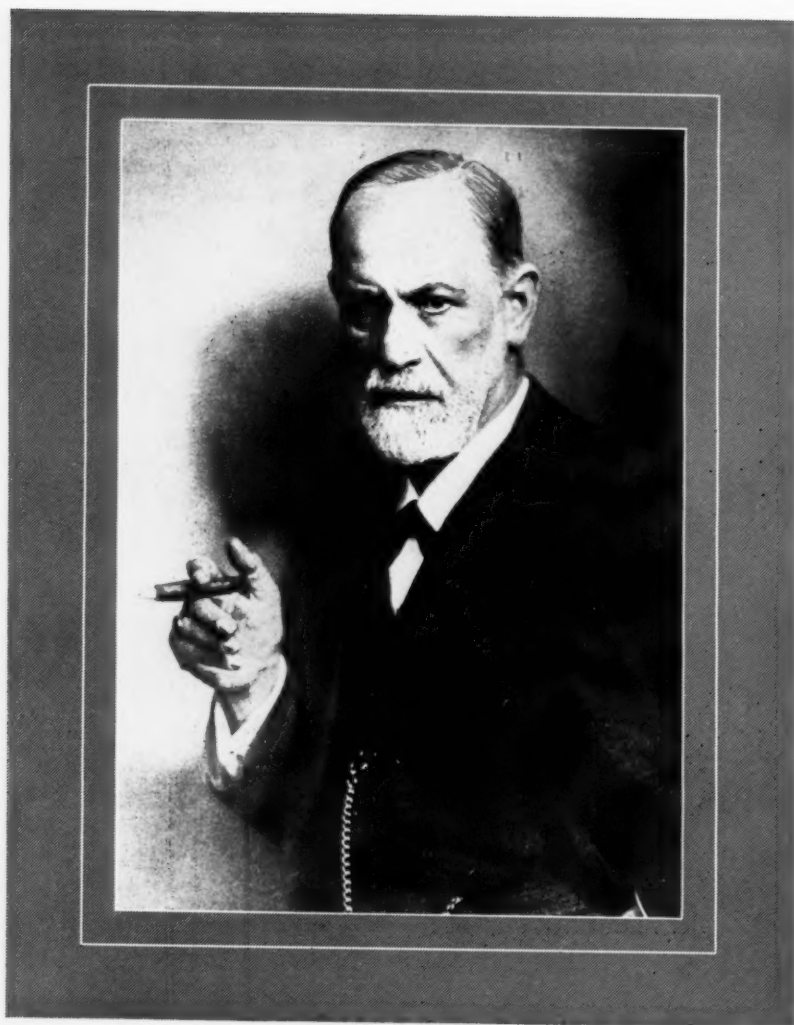
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Clinical Medicine

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June, 1925

Dr. Sigmund Freud

SIGMUND FREUD, who was later destined to achieve worldwide fame as the discoverer, inventor or originator of psychoanalysis, was born at Freiberg, in Moravia, on May 6, 1856.

He studied medicine at Vienna, and during his years as a student in that city he came in contact with Brücke, the psychologist, and was profoundly influenced by him in the studies which he pursued at that time.

Freud received his Doctor's degree in Medicine in 1881 and became a teacher in 1885. During the latter year, he took up a course of study under Charcot in Paris, and under his influence cooperated with the Viennese physician, Joseph Breuer, in the study of cases of nervous disease and in the publication, in 1895, of the well-known *Studien über Hysterie*, in which was first advanced the therapeutic use of "psychic catharsis", under hypnosis.

As time went on, Freud lost faith in the value, or necessity of hypnosis in dealing with these cases and struck out along lines of his own, which led, at last, to the publication of his various works on psychoanalysis, beginning about 1909.

As is generally understood, the basis of the Freudian doctrine is that all of the psychic maladjustments of the individual with his environment result from the suppression or distortion of sex impulses of

one sort or another, these suppressions leading to what are called "complexes", "inhibitions" or "repressed urges", which may manifest themselves as psychic or physical illnesses of great variety.

The remedy for the diseased conditions caused in this way is to bring again to light, by means of the symbolic interpretation of dreams or "free association" tests, the "urge" which was originally suppressed, so that the patient, contemplating it and recognizing it for what it is, may be rid of it as a factor in functional or organic pathology.

Whatever errors may inhere in the teachings of Freud—and many prominent and thoughtful psychologists now feel that these are many and fundamental—the fact remains that they are so interesting and thought-provoking and have opened up such fertile fields for further research that, though one may reject many of them, they can not be overlooked or dismissed.

Personally, Dr. Freud is of the lean, ascetic, intellectual, Semitic type—a philosopher, a connoisseur of art and an intense and fertile thinker; but, first, last and all the time, a physician, eagerly searching for means to cure or relieve those who are ill.

As an example of his versatility, it is stated that he was the first man who actually used cocaine as a local anesthetic in operative work. He and Karl Koller were

working on the problem at the same time, unknown to each other. Freud made the discovery first, but left Berlin on a visit before publishing it. When he returned, Koller had forestalled him.

The well-educated physician can hardly afford to be unacquainted with Freud's work, and this is rendered easy by the fact that a number of his writings have been translated into English, notable among which are, "On Dreams" (Rebman Co., New York, 1914) and "A General Introduction to Psychoanalysis" (Boni & Liveright, New York, 1920).

Health is dependent upon properly keyed acts. A wrong or improper act in matters of health sets up a wrong series of reactions and leads to preventable illness and disaster.—Dr. Herman N. Bundesen, Health Commissioner of Chicago.

THE PRIVATE HOSPITAL IN RURAL COMMUNITIES

The medical and the lay press, also, have of late been referring, rather frequently, to the fact that there is a shortage of competent medical men in the small towns and rural districts.

There seem to be a number of rather obvious reasons for this condition. The training of a Doctor of Medicine is, today, a long and expensive process and, in the course of that training, almost all of the practical work is done in hospitals where all modern facilities, including those of well-equipped laboratories, are constantly at hand.

During his undergraduate years, the student is constantly in touch with his teachers who are, of course, prominent men in their various lines in the urban communities where our colleges are located. In this way, he is constantly hearing of the large fees received for surgical work and of the ample incomes enjoyed by the men who are leaders in the city's various medical activities.

After his graduation, he is faced by two alternatives: he may locate in a city, where the hospital and laboratory facilities to which he is accustomed are always readily at his disposal, where he can enjoy the other advantages of a large medical center and where he has reason to know that large fees are frequently paid; or, he may open an office in a village where, so he has heard, the fees are low and the work hard, and where he will be in danger of losing the benefits of much of his technical train-

ing because many of his most interesting cases will go to a hospital in some nearby city, thus depriving him of valuable experience and needed financial remuneration.

He may not realize that all city doctors do not receive the fees commanded by his teachers, nor that the period of waiting for any fees at all may be long and lean. On the other hand, he may not appreciate the fact that, in the country, his income, while smaller than he had hoped, is likely to begin promptly and continue with reasonable certainty, increasing with time, provided he keeps himself up with the progress of medical science.

There should be some compromise between these two extremes, and we have long believed that there is. On page 379 of this number, we are publishing an article by Dr. B. B. Parker, a country doctor, who is in the way of solving this problem and who goes into rather full details of how he is doing it. It might be a good idea if every dissatisfied rural practitioner in the country could read this article.

We have, at present, only one suggestion to add to what Dr. Parker has to say. He speaks of the "jealousy of his professional brethren". This professional envy, or whatever it is, is most deplorable between members of our great profession, but why not forestall it? It seems to us that it might be practicable for all the ethical and qualified physicians in a town to get together on a proposition like this. If there was a disturber, or one who refused to cooperate or did not fit in, for any reason, he would have to be left out.

This association of two or more physicians in a project of this kind would divide the financial burden of equipping the institution; provide enough work so that a laboratory technician could probably be employed on the same basis as the nurse, and possibly another nurse; afford competent professional assistance to the surgeon who happened to be operating; and multiply the value of the hospital to the community and to the physicians themselves.

In time, the various members of such a group could fit themselves, by postgraduate study, to handle special types of cases, as nose and throat, urological or obstetrical work, etc., so that a natural division of duties would result. A well-trained dentist might well be added to such an association.

It seems to us that, in view of present-day conditions, some arrangement along the

general lines laid down in Dr. Parker's article and in this editorial will prove to be the solution of one of the most pressing problems with which our profession and the country in general is faced.

Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse; but to weigh and consider.—Bacon.

MEDICAL SOCIETIES

Of course, we all belong to our County and State Medical Societies, and to the American Medical Association. These are things which are expected of every active and ethical physician. Does the question ever arise in any of our minds whether we are getting our money's worth for what we spend in dues in these various societies?

If we are not getting anything, or very little, out of our medical societies, the reason is not far to seek: it is because we are putting nothing into them. You can't get anything out of a jug (or a medical society) that hasn't first been put into it.

Sit down quietly for a few minutes and ask yourself some questions, and answer them honestly.

What kind of a county society would we have if every member made exactly as much effort as I make to see that its meetings are a success?

How successful would the meetings of the State Society and the A. M. A. be if every member attended them as regularly as I do, and contributed as freely to the discussions as I contribute?

How much fraternal spirit and coordinated effort would there be in the profession if every member of it were as friendly and helpful and as good a cooperator as I am?

If you say to yourself that you are never asked to read a paper before any of the societies, do you ever stop to wonder why that is? There is a reason for everything that occurs in this world. Let's look for this one.

The officers of the County Society are desirous of preparing programs which will interest the members. They go earnestly over their lists to find those who *have something to say*. The man whose profession is nothing more than a means for earning his daily bread rarely has any overflow of energy to give his confreres. Your county secretary is looking for the fellows who bubble over with an enthusiasm which is contagious; the men who study, who keep

records of their cases and who take an active part in the discussion of the papers which other doctors present. You cannot "hide a candle under a bushel," nor can an enthusiastic and well-informed man remain in obscurity in any professional gathering.

Here is the formula for getting abundant returns on your society memberships.

First, you must be not merely contented with your profession but you must take an active pride and joy in it.

Keep posted on the new developments along the lines in which you are especially interested. Get a medical hobby and *ride it hard*, being prepared to accept the falls which your confreres will take out of you, and keeping yourself "loaded" to answer their questions and arguments.

When you receive the program of the next county meeting, look over the subjects which are to be presented and then get down your textbooks and read them up so that you will be prepared to discuss them intelligently.

If you do this regularly, it will add greatly to the interest of the meetings, and points will be brought out which will be vastly helpful to you; moreover, you will soon gain the reputation of being a well-posted man and will be asked to present papers before the society.

When you have a paper to prepare, do it *thoroughly*. Go over your cases for material which will illustrate the points you want to bring out; consult the textbooks; go over your paper with the A. M. A. *Style Book* and get it into sound and attractive literary form; if your reference library is not so extensive as you could wish, here is a place where we can help you. We have a large reference library, and will be glad to look up matters for you and give you a list of articles on your subject.

After you have given the society a paper which is up to the minute and full of practical information, *publish it*. Here is another place where we can help you. We are eagerly looking for snappy, readable, usable articles for CLINICAL MEDICINE.

If, after all your efforts, the literary form and style of your article are not all you could desire, but it contains valuable *ideas*, we will dress it up for you.

The only ethical way in which a physician can advertise is by writing articles for the medical journals. If your published communications are original and well presented, the authorities of the State Society

will eventually find you out and your field of usefulness will become enlarged.

Follow out these ideas, consistently and regularly, year after year, and you will find that there are no limits to your progress except those you set for yourself.

Remember, you have to put something into a bottle (or a society meeting) before you can take anything out; and the more you put in, the more you can take out. Remember, also, that if you have more stuff than your present bottle will hold, you are sure to be provided with a larger bottle.

Folks who never do any more than they get paid for never get paid for any more than they do.—Elbert Hubbard.

HOW TO CHOOSE A VACATION

Some people look upon a vacation as a time to rest and do absolutely nothing; but the dictionary says it is the cessation from one's ordinary occupation. The more completely a man abandons his usual duties and turns to entirely different forms of activity, the more good his vacation will do him. A long, cross-country hike would not be a very satisfactory vacation for a mail-carrier.

When a man's regular work calls for much mental effort, and he spends most of his time seated at a desk, he needs to put in a few weeks each summer living out of doors and engaging in *reasonably* active physical pursuits. Some men start out, after eleven months in a swivel-chair and a limousine, and try to climb mountains for a month. A number of these die of heart-failure, and many more come home physically exhausted and have to spend a week in recuperating from their vacation.

If a man's daily duties require heavy physical labor, his vacation should consist of physical rest, together with some mental activity, or of quiet sports. For such a man a sea voyage is excellent; or he may go on a fishing trip in a locality which does not require too much exertion to reach. If he is studiously inclined, he can have a beautiful month in a hammock, with plenty of books.

If your work keeps you constantly among people, take your vacation alone; and if you earn your bread by lonely labor, get out and mingle with your kind. The former kind of worker will be refreshed and strengthened by a month in the north woods, far from the haunts of men; while

the latter will get the fillip which his solitary soul requires from a period at some lively summer-resort.

The housewife should spend her vacation at a hotel, where she will not have to give a thought to preparing meals or making beds. The farmer should go to the city for change and recreation; and the city man to the country.

These, then, are the rules to use in choosing one's vacation:

1. Do the thing you *want* to do, but for which you have no time during your working months.
2. Make vacation activities as different as possible, in every way, from those of your daily work.
3. Be moderate. Remember, the athlete goes into training before he "does his stuff."
4. Plan your vacation within your means, so that it will not be spoiled by financial worries.
5. Cut loose *entirely* from your work and *forget it*.

The senses are instruments of the mind, and can only report what the mind can conceive and perceive.—A. B. Jamison.

BACTERIAL VACCINES

In January we published an article (on page 24) in which some interesting data regarding the use of bacterial vaccines were studied.

In this number we are publishing two such articles (on pages 365 and 383), one of which was inspired by the article in the January number.

This subject of the bacterins seems to us to be assuming a larger and larger importance the more we study it; and, as its importance increases, the need for accurate and detailed case reports becomes more apparent.

We are sure that many of our readers are using these preparations with great frequency, and we hereby appeal to these to *give us case reports*.

Read the editorial on "Case Reports and Scientific Medicine," on page 4 of January CLINICAL MEDICINE and then go over your files and see if you have not five or ten or fifty or one hundred cases of this sort that you can report. Make the reports accurate and detailed, so that others can profit by your experience. It ought not to be difficult to collect several hundred such cases in this way, and a study of such material should furnish interesting and valuable material.

If you have a large number of cases, write an article and discuss your results fully. If your cases are few, just send in the unadorned case reports and we will compile and study them and give you the results. The mere preparation and study of these reports will make you a better doctor, and their publication will be helpful to every reader.

Dozens of those who study CLINICAL MEDICINE write and ask us for *more case reports*. We can't pick these things out of the air. If you like to read case reports, send us yours. If every reader of these lines sent in only *one*, we would have a mass of material which would keep us—and you—busy for months studying them; and we would all profit enormously by such study.

Dr. French, the author of the article on page 365, is especially desirous of seeing comments on the various details of his technic. Let us not disappoint him.

The power to think is the most practical thing in the world.—Coolidge.

A BABY CONGRESS AND HEALTH EXPOSITION

A very successful affair, described as in the title, was staged in the exposition rooms of the great furniture mart on the Lake Shore of Chicago during the first ten days of May.

We believe that most thinking people are ready to admit that *ignorance*—of many things and in varying degrees—is at the bottom of most of the mistakes, misjudgments and failures which prevent our lives from being all that we would have them. Granting this premise, such exhibitions as this one are vastly useful.

The show was supervised and managed officially by the Illinois State Medical Association, and much of the actual work was done by the physicians of Chicago. The State Board of Health, the American Medical Association, the National, State and Municipal Antituberculosis organizations and many other public and semipublic agencies cooperated fully and satisfactorily.

Posters, charts, photographs and other interesting means were freely used to bring home to all visitors the fundamental requirements for preventing disease and conserving health. Much free literature upon the prophylaxis of venereal disease and tuberculosis and upon other hygienic matters was distributed.

Babies were there in the thousands and older people in hundreds, as competitors for the prizes offered for physical perfection. Of course, the opportunity was utilized to emphasize the importance of periodic health inventories for everybody.

One optical house focused its attention upon informing the public of the necessity for consulting trained medical men in the care of the eyes. Upon personal inquiry, they found that less than ten percent of the people knew the difference between an oculist and an optician. They had a little booklet ready to instruct them.

The Chicago Tuberculosis Clinics had representatives on the floor who demonstrated x-ray photographs and microscopic slides and examined anyone who wished information as to the state of his lungs.

In the booths were exhibited everything necessary (and unnecessary) for the care of babies—from nipples to nursery furniture and from ice cream cones to iceless refrigerators.

The community can scarcely fail to be vastly benefited by such a broadcasting of public health propaganda.

The moral of the tale is this: if the medical profession could put over an affair like this on a big scale, in a big city like Chicago, why can not the profession of every city or county in the country do the same, on a proportionate scale, all over the country? All national and state organizations for the promotion of public welfare will be glad to cooperate in any such effort.

Talk it over in the county society meetings—and, more power to the men who teach the people how to keep well.

The tongue which is yielding, endures; the teeth which are stubborn, perish.—Chinese Proverb.

THE SURGICAL SEMINAR

Our readers are not giving the attention to the Surgical Seminar which it deserves. You are all, no doubt, reading it with interest, but when you do not take part in it you are doing an injustice to yourselves and to others. To yourselves, because the best substitute for actual attendance at the clinics in our great medical centers is to engage in the clinical discussions which we bring into your office; and to others, because the interest and value of this department depend, largely, upon having a large number of discussants of the various problems.

A man does not need to be an expert in medical writing to get into this game. Just write and give us your opinions, and if there is anything wrong with your way of stating them it is our job to put your material in proper shape for publication. But, *let us have your ideas!*

Read over Surgical Problems Nos. 5 and 6, on page 244 of the April CLINICAL MEDICINE; study them and tell us what you think. Study Obstetrical Problem No. 1, on page 317 of the May number and make some suggestions on that, also.

Dr. Blech's address is 108 N. State St., Chicago, and we hope you will overwhelm him with a flood of comments on these interesting surgical exercises.

We are trying to give you "A Monthly Postgraduate Course" and we hope you will take all possible advantage of it.

The man who goes through life hunting for a soft thing can find it right under his hat.—*Med. Pocket Quart.*

NUT NUMBER 46

There is a story current, hereabouts, to the effect that when a certain man, applying for a job as a mechanic in a garage, was asked what experience he had had, he replied that he had worked for three years in the Ford shops. Questioned as to the specific kind of work he had done there, he stated that he had "screwed on Nut No. 46."

We all laughed a lot at this story, especially those who knew something about the way the work is done in the Ford shops.

On maturer consideration, however, the situation appears less humorous. Generally speaking, a man has about so many years to live, and, if he fails to make every one of those years count, in the journey toward some particular life's destination, he will fall just so far short of arriving at the place for which he started. Here was a young fellow who had spent three of those priceless and ir retrievable years in screwing on Nut No. 46.

The more we think of it, the more it looks as though there were a good many nut-screwers-on; and not all of them are working in flivver factories, either.

There is another story about a man who spent some months in threading and finishing a certain type of bolt to be used in some large piece of machinery. Becoming dissatisfied with this rather cramping occupation, he was moved to wonder what use his particular bolt served in the completed fabric; so, he investigated and, when he found his bolt in the finished machine, he realized that, to function properly, certain parts of it must be finished with meticulous accuracy, while others could safely be left rough. This gave him a field for constructive thinking in connection with his work; and when a man begins to think constructively there is no telling how far he will go. This fellow became foreman of the shop in a few years.

It will do us all good to stop, from time to time, and carefully check up on ourselves to see whether we are screwing on Nut No. 46, or making a small bolt which is, none the less, absolutely essential to the proper operation of the great machine of human life.

If we are engaged in the former occupation, we are certainly not particularly useful or necessary members of the body politic; and, if we are getting little out of life, that little is probably more than we deserve, for we can scarcely be said to be living at all, in the larger and truer meaning of the word.

If, however, we are making a necessary bolt, no matter how small and seemingly unimportant, and making it *as well as we can*, by using our heads as well as our hands, we are an absolutely essential part of the community, and there is no limit to our ultimate accomplishment except such as we, ourselves, set by our willingness or unwillingness to spend time and patience and study in perfecting our particular bolt and preparing it to function in the most efficient manner in the great machine which is called modern life.

Leading Articles

Imbecility in Relation to Endocrinology

By MAXIMILIAN KERN, M. D., Chicago, Illinois

Formerly Professor of Endocrinology, General Foundation Medical College; Chief, Endocrinologic Department, Edward C. Seuffert Memorial Clinic.

IDIOCY and imbecility are diseases which merit more serious attention by the medical profession than has been accorded them in the past.

The usual policy of referring children afflicted with either type of mental deficiency to a public institution or asylum as soon as the diagnosis has been established is contrary to the professional and economic interests of all concerned.

These reasons have prompted the author to arouse greater interest in the character and noninstitutional treatment of these diseases on the part of the medical profession and this report is to be considered as introductory to a series which will be published from time to time.

Etiology

The etiology of idiocy and imbecility still remains obscure. Many theories have been advanced but none are acceptable as indisputable facts. Disturbance of the mother's physical condition during pregnancy, labor and the puerperium, traumatism to the child during labor, improper nutrition of both mother and child and consanguinity are mentioned as some of the prominent factors which have been charged with immediate responsibility for the affections under consideration. None, however, stand critical tests. In a series of twenty cases which have been studied with care, by the author, with a view of detecting the etiologic factor, none of the theories advocated proved acceptable.

This statement should not be interpreted to mean that the bad influence of malnutrition and consanguinity are denied as such, for, on the contrary, the author is in accord with the teaching regarding the bad influence of consanguinity on deaf-mutism, as based on absolute and undisputable fact.

Mongolian idiocy has been most frequently observed among children of old and physically and mentally exhausted parents as well as among the last offspring of large

families. Thursfield,¹ who has studied 200 cases, does not verify this observation. More than two-thirds of his cases did not occur in large families and only one-third of the mothers were over 35 years of age.

Syphilis and tuberculosis can be excluded as immediate etiologic factors of mental deficiency.

Endocrine Disturbances as Etiologic Factors

The progress made in endocrinology during the past decade has revolutionized our conception of the etiology and rational therapy of many diseases and this applies with special force to the mental disturbances and defects under consideration. It is scarcely necessary to do more than invite attention to the fact that these affections have received scant scientific attention until it has been shown that they might be traced to perversions and deficiencies in the function of the glands of internal secretion.

Normal development of body and mind go together—*mens sana in corpore sano*—but, when nutrition is disturbed and improperly regulated by important body functions, physical and psychic abnormalities are the result.

The influence of altered endocrine secretions on the development of functions of the nervous system can be recognized at an early period of life. Some of the characteristics of idiocy and imbecility apparently are due to some sclerous lesion or lesions of the brain caused by various infections, notably syphilis, and develop in characteristic form; others are clearly due to nutritional disturbances produced by endocrine perversion or insufficiency, as is seen in myxedematous idiocy; while still other types of idiocy are only indirectly caused by glandular alterations.

Defect of glandular secretion is chargeable to its progenitors rather than to the child itself. Their endocrine disturbances have percussed on the nervous system of the

fetus in utero. Mongolism, which is often recognizable at birth, typifies these congenital glandular defects.

In support of the above is the well-recognized fact that good results are often obtained from rational and systematic endocrine therapy, whereas mentally deficient children not so treated become worse and worse as time goes on. This fact is particularly striking when appropriate treatment is begun early in the child's life.

Prognosis

There is no longer any doubt that myxedematous cretins and Mongolian idiots may be greatly improved, so far as growth, external habitus and intellect are concerned. Whether they can ever become normal individuals is, as yet, highly problematical.

The earliest results of endocrinological investigations revealed that an approach to normality could logically be anticipated to follow early systematic glandular treatment. This has been abundantly substantiated by large numbers of clinical observations, many of which have the stamp of official authority as expressed in formal reports of institutions for the feeble-minded.

Certainly, one is justified in asserting that endocrinology has accomplished more good in all types of mental deficiency during the past ten years than has been attained in the entire history of mankind and, while the ideal has still to be attained, it must not be forgotten that we are making rapid strides forward and, accordingly, the not too distant future promises to shed more light.

Differential Diagnostic Points

Idiocy and imbecility are often confounded, doubtless because both are expressions of mental deficiency. There are many degrees or, if you prefer, *nuances* between idiocy and imbecility, but there is a veritable abyss between imbecility and normality.

Psychiatrists recognize certain differences which are of practical interest because they have a direct bearing on the therapy.

In the complete idiot, the mental deficiency is gross and due to disease or arrested development present at or even antedating birth. The deficiency is evident immediately or very soon after birth. The imbecile, on the other hand, does not reveal his mental deficiency for some time after birth, and perhaps not until puberty or adolescence is reached. The legal definition is interesting: the idiot is one born without

a mind while the imbecile is an adult with the mind of a child.

Endocrinology views mental deficiency of all grades as due to some anomaly in the evolution and nutrition of the nervous centers, varying according to the period of life in which it is manifested. Since normal development and nutrition are known to be associated with the proper functioning of certain endocrine glands, it follows that, when these glands are not developed, improperly developed or interfered with in their proper functioning by any cause, nervous and mental disturbances will result.

Endocrinology recognizes several types of mental abnormalities, which are the result of deficiencies or perversions of function of the thyroid, the hypophysis, the parathyroids or other glands.

A child born with a more or less pronounced dystrophia of the thyroid is a myxedematous or cretinoid idiot. The head seems to be too large and crushes the thorax, the abdomen is enlarged, the limbs are short and deformed, the tongue protrudes from the mouth and, as time proceeds, signs of intelligence fail to appear, the child remaining an idiot, with absence of all power governing vitality and normal nutrition. Often, death terminates early the sad existence.

While investigation seems to associate cretinoid idiocy with anomalies of the thyroid either in the mother or in the fetus or both, it is impossible, at this time, to free other glands from blame. This applies with special force to the pituitary.

The literature is replete with evidence that the mentality in severe sporadic cretinism can be improved by thyroid medication, but, when anatomical lesions are pronounced, little can be expected from endocrine therapy.

Infantile idiocy due to parathyroid dysfunction has been described by Noel Patton¹ and Findley. This type is myxedematous and is distinguished from cretinoid idiocy by the absence of the pseudo-lipomatous abdomen. It is not congenital but acquired during the very early period of life, through parathyroid failure, and is not accompanied by arrest of physical development. We have reason to believe that this type of idiocy is curable by proper treatment with parathyroid extract.

Mongolian Idiocy and Thyroid Dysfunction

Most investigators are agreed that so-called Mongolian idiocy is due to endocrine

imbalance, but there is no general agreement as to the particular gland or glands involved. Stoeltzner¹ and others consider it due to hypothyroidism of mother and fetus. Hutinel and Maillet² believe that it results solely from conditions of the mother during pregnancy. Where there is often thyroid disturbance, emotional stress, chagrin and the like, these have a deleterious effect on the suprarenals and other glands of the mother, sufficiently so, perhaps, to modify her nutrition to an extent which may prove a hindrance to the formation and normal development of the brain of the fetus.

Mongolian idiots are small, physically weak and show restricted mentality virtually from birth. The facial appearance peculiarly resembles that of Chinese or Japanese children; the eyes are half closed, oblique, and the internal canthi are at abnormal distances from each other; the palpebral fissures are narrow and almond-shaped with the long axis placed obliquely; the nose is broad, embedded in its root, making nasal breathing difficult; the lips are thick, the mouth is half open and the tongue is fissured; dentition is late and irregular and the fontanelles remain open a long time.

In general body form, Mongolian idiots show the large abdomen of the cretin with short limbs; the little finger often shows arrested development.

These idiots do not show the advanced type of mental deficiency observed in cretins, nor are they as markedly apathetic. There are, of course, many minor peculiarities due to nutritional disturbance which produce the symptomatology of cretinism.

Idiocy and the Pituitary

Timme,³ in twenty-three out of twenty-four nonselected cases of Mongolian idiocy, finds that the radiographs of the skull showed a peculiar deviation from the normal in the anterior portion of the fossa pituitaria, in the shape of an excavation under the anterior clinoid process.

The Mongolian type physically presents, as a general rule, a combination of subnormal and disproportionate body growth, combined with genital maldevelopment. Timme believes that disturbance of the anterior portion of the pituitary gland might readily produce many of the symptoms shown by Mongolian idiots. He inaugurated pituitary therapy in seven of his cases, which, up to the time of his report, had shown some success including also mental improvement.

Clinical experience of other observers has convinced them that the pituitary gland is decidedly involved in Mongolian idiocy.

Thyroid Therapy

Thursfield, who has seen good results from thyroid therapy in a study of 200 cases of Mongolism, says:

"There can be no doubt, I think, in the mind of any one who follows these cases carefully over a considerable period, that small doses of thyroid extract have a beneficial effect on the physical condition, though there is room for doubt as to mental improvement. However, I am myself convinced there is some benefit on the mental side as well as on the physical—speech, general intelligence, obedience and even temper seem to me to be promoted by the use of thyroid, and the earlier it is begun and the more consistently it is pursued, the better the prospect."

The benefit derived from thyroid medication has also been recognized by French physicians who have made extensive and prolonged observations in large institutions. Desgeorges⁴ gives interesting figures showing improvement during periods of thyroid administration and marked diminution of the progress of the disease during the therapeutic intervals.

Endocrine Therapy

Our own clinical experience with endocrine therapy in both the cretinoid and Mongolian types of idiocy has been entirely in accord with the findings of the authors previously cited.

Observation of fourteen cases has convinced us that the pituitary gland plays an important role in the syndrome of Mongolism, and we have systematically treated such cases with glandular extracts in combinations which always contained pituitary extract.

Most of the cases studied have had some form of endocrine therapy before they came under our observation. Invariably these patients seem to have been treated with thyroid extract without any appreciable improvement, though the treatment had been administered for prolonged periods. This early convinced us that thyroid treatment alone and unaided has no place in this class of affections.

An observation was made with thyroid administration which is highly interesting from a diagnostic point of view and which may be mentioned here. We have noticed that all of the cases under our observation have shown a decided reaction to thyroid medication, the reaction appearing with

phenomena seen in thyroid intoxication. We now employ thyroid extract as a routine diagnostic measure.

A word of caution may be timely. Endocrine extracts of all kinds, to be effective, should be freshly prepared and of reliable quality. Often, disappointments are due not to irrationally selected extracts but to inferiority of the extracts themselves. Occasionally, we hear of bad results from the administration of endocrine products, so called, with reactions resembling ptomaine poisoning. As these poor and unfavorable results are apt to discredit endocrine therapy in the minds of the uninitiated when the fault is to be laid at the door of faulty manufacture, one should be careful in the selection of the drugs, the same as with other classes of medicine.

Clinical Reports

We present two cases for the purpose of illustrating what has been said in the preceding section. These cases have been selected for purely external reasons, principally because we happen to be in a position to submit photographs of the patients taken before treatment was begun and after a few months' course in therapy.

A few statistical notes will enable the reader to appreciate some of the difficulties likely to be encountered.

Of a total of twenty cases referred to us, six were rejected as not being due to endocrine disturbance. Some form of therapy, including surgical measures, had been given for some time without effect.

Of the remaining fourteen cases which have been selected as properly being endocrinologic in character, treatment varied from about two to six months in duration, with the following results:

(a) Three showed slight improvement after two months' treatment. They were withdrawn from observation for external reasons.

(b) Seven are still under observation. Improvement in some form or other is noticeable while the patients are under treatment. Withdrawal of treatment results in retrogression. Further observation is needed to determine the lasting value of glandular therapy.

(c) One case has a past history of mental and physical privations affecting the entire family, and the environment at present is so bad that these conditions must be removed before endocrine therapy can be instituted with any promise of success.

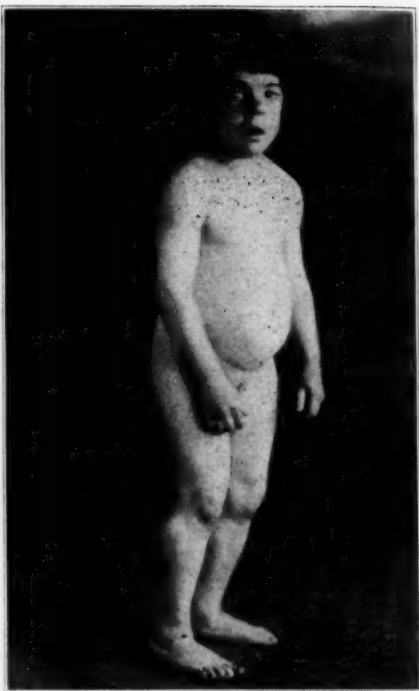


Fig. 1. Case 1.

(d) Three cases have shown striking results, which are clearly shown in the following reports, the third case being virtually a duplication of the first, for which reason it is omitted as a detailed report.

Case 1. F. G., female, aged 11. She has three older brothers, all of whom are normal. There is nothing abnormal in the maternal history. The accouchement of the child was normal and noninstrumental. The father is living and well. The mother had an adenomatous goiter of fairly large size. She can give no information as to its onset, nor does the struma cause her the least inconvenience.

The Bram' quinine test, corroborated by basal metabolism, showed conclusively that the goiter is not of the Basedow type and can, therefore, be ruled out as an important etiologic factor as regards the status of the child.

The patient was breast-fed the first four months, when artificial feeding without medical supervision was resorted to. At about that time, the mother noticed that the child was "not right," and called in a physician who confirmed mental deficiency.

Several physicians were now consulted and thyroid extract was administered, more or less regularly, for several years, but without noticeable improvement. As time progressed the child failed to show mental or physical improvement. She was first seen by us in the clinic in October, 1924. The degree of Mongolian idiocy will be appreciated by a glance at Fig. 1.



Fig. 2. Case 1.

The patient was 3 feet, 8 inches tall and weighed over 45 pounds. The general facial expression is that of a hopeless idiot; the protruding lips, the expressionless gaze, the drooping angles of the mouth with the dribbling of saliva, the tearing eyes, the open mouth showing irregularly shaped and spaced teeth, the thickened tongue and nasal breathing added to the picture, which even a layman could not fail to recognize as diagnostically conclusive.

Physical examination showed a hirsuties of coarse, black hair over the entire body (Fig. 2), especially pronounced over the face and the greater part of the back, an enlarged abdomen and thickened calves. The heart showed rapid action, but otherwise was

normal. The lungs were normal. Routine physical examination could not be completed, as the patient is unable to cooperate.

The mental test left no doubt that the child did not understand the most elementary questions and was absolutely unable to repeat the simplest words, which would



Fig. 3. Case 1.

present no lingual difficulty to a normal two-year-old child.

When approached, the child showed tonic and clonic contractures of both hands with arms held rigidly in adduction, this being the sole sign by which she betrayed cognizance of the presence of a stranger in the room, for every effort to attract her attention failed to produce any response whatever.

Treatment was begun at once and carried on systematically to date of writing (March, 1925). Aside from dietetic and hygienic measures of importance in similar cases, the endocrine therapy consisted of freshly-prepared extracts of the anterior pituitary, parathyroid and ovarian glands.



Fig. 4. Case 2.



Fig. 5. Case 2.

The result of this treatment is as follows (see Fig. 3):

The patient gained more than three inches in height and lost over four pounds in weight. The abdomen has diminished in circumference. The facies is that of an intelligent girl. She can not only understand questions but answers them with distinct, articulated speech. She is free from tonic and clonic contractures when approached, and, to cap the proof that she realizes whom she is with, she volubly confides to you certain happenings at her home. To illustrate: Her brother had not been obedient and she had threatened to report him to the doctor. She is to have a birthday party and she describes minutely the anticipated event.

Case 2. J. S., male, aged 6. His father and mother are normal. Maternally the history of pregnancy and parturition showed absolutely normal conditions. He is the only child. There have been no abortions or miscarriages. An aunt on the paternal side is said to suffer from epileptiform attacks.

The child was breast-fed until nine months old. The mother noticed at that time that he could not hold up his head steadily. He began to walk only when



Fig. 6. Case 2.

about three years of age and it required an additional six months before he began to talk, very poorly. Measles, pneumonia and diphtheria attacked the child during the subsequent two years.

This patient was seen by a number of physicians and the last one, who referred the boy to the clinic, had treated him with comparatively large doses of thyroid extract for a prolonged period, without being able to note any amelioration in the mental condition.

When closely questioned, the mother says that, ever since she can recall, her son's speech has been poor and his mentality extremely slow. Speech, on examination, is inarticulate—one is unable to understand a single word. Tests show complete absence of intelligence (Figs. 4 and 5). The child has no control over the vesical and anal sphincters, with the result that he is in a pitiable plight and a severe tax on the mother's powers of endurance. Even when the mother somehow makes him understand something in the nature of a command, the little fellow betrays disobedience, stubbornness and irritability of temper, rendering his management an exceedingly difficult affair.

Treatment similar to that outlined in the preceding case was given, and the results, after six months, are even more brilliant than in the case of the girl reported above. (Fig. 6.)

Speech has improved to an extent that conversation can be carried on without difficulty. Intelligence has improved sufficiently to enable him to grasp elementary

questions, such as one would propose to a child of his age, and the answers are prompt and distinct. He is obedient and betrays no irritability. Control over bladder and rectum is very good.

The treatment will be discontinued in the near future to test the lasting value of the endocrinologic therapy for durability.

Summary

1.—Mongolian idiocy and imbecility are diseases which merit therapeutic management in private practice.

2.—A sharp line of differentiation must be drawn between cretinism due to thyroid malfunction and idiocy.

3.—Thyroid medication is almost a specific in cretinism. In idiocy it has only a diagnostic value.

4.—The roentgen rays show characteristic pathology of the sella turcica and have diagnostic value in idiocy.

5.—The prognosis of idiocy is favorable under proper endocrinological treatment, provided reliable and freshly-made glandular extracts in rational combinations are employed.

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Bacterial Vaccines and the Technic of Their Use

By J. M. FRENCH, M.D., Milford, Massachusetts

I WAS much interested in the "Group Study of the Bacterial Vaccines" which appeared in the January issue of *CLINICAL MEDICINE* and hope for more in the same line. The arguments for and against the stock and the autogenous vaccines respectively were well brought out. The summing up, favoring the stock vaccines in the general run of cases, especially when the need of haste is urgent, as being more likely to be on hand or readily obtainable, much less expensive, and on the whole better adapted to the ordinary cases; while the

autogenous varieties are to be preferred when there is plenty of time, and when the stock vaccines have been tried and have failed to produce the desired results, expresses my own view of the matter.

There are a number of other topics connected with the subject which I should like to see discussed in a similar manner; and, I will set the ball rolling by bringing some of these up for consideration, making such suggestions as my own limited experience may warrant, and asking such questions as I should like to have answered

by some of your readers who have had a wider experience than mine. Short of the daily use of the bacterins in one's own practice, I know of no better method of learning their uses and value than a hand to hand discussion of this kind.

My own experience has convinced me that, with that degree of ordinary care without which no one has any business to engage in the practice of medicine, there is no danger in the use of these agents; and also that they do produce beneficial results in a large proportion of cases which are not readily reached by other means. Under these circumstances, I feel justified in trying them out in new combinations, for new purposes and under new conditions.

Prophylaxis and Cure

Of the two fundamental uses of the bacterial vaccines, for prevention and for cure, my interest has always been greatest in the prophylactic use. This seems to me to be in accord with the trend of the times in medical science, which each year gives more and more attention to the prevention of disease, without, however, neglecting its cure. Take the respiratory infections as examples. Considering their wide prevalence, and the number, variety, and seriousness of their sequelæ, it is safe to say that the doctor who can teach men how to do away with common colds will add more years to the life of the world than the one who can annihilate cancer.

The first step in the direction of artificial immunization against disease was made when Jenner learned, from a milkmaid, that inoculation with cowpox, a comparatively mild disease, would protect against subsequent infection with smallpox, a severe and deadly disease of a similar nature. Another step was taken when Pasteur learned, by accident, that chicken cholera germs, which had been cultivated under conditions unfavorable to their growth and full development, would not produce chicken cholera when introduced into healthy chickens but would, nevertheless, bring about certain changes in the system which would protect them against the virulent form of chicken cholera. These discoveries were the foundation of protective immunization by bacterial vaccines as we use it today. The final step consisted in substituting for the living and highly dangerous microorganisms of the diseases in question the killed and therefore less virulent germs, which are injected with the

object of producing artificial immunity by stimulating the patient's own cells to produce antibodies which will act as a protection against the disease.

Duration of Immunity

Putting aside, for the moment, the details of the methods by which this result is secured, there is one question which seems to me of the greatest importance, concerning which there is still enough difference of opinion to render an exchange of views desirable. This relates to the length of time for which this increased resistance or partial immunity may be expected to last, and when the treatment should be repeated in order to prevent a recurrence of the troublesome colds. This question is answered differently by different doctors, or often is not answered at all. The patients are apt to wait until the colds recur, and only then, when the barriers have been broken down, and all that had been won is lost again, do they come back for further treatment.

Some doctors advise taking the immunizing treatment once a year, usually about the first of October, so as to be prepared for the winter; and, in cases of only moderate susceptibility, this plan may be satisfactory. Others calculate that the immunity lasts on the average about four months, and advise a repetition three times a year. In confirmed cases, this would probably be safer than the first plan; but, it is very difficult to convince the patients of the need of this frequent repetition, and still more difficult to persuade them to attend to it when convinced.

A Successful Technic

The plan which I have followed in my own individual case for eight years, with only an occasional relapse, is one which I worked out for myself, and seems to meet the needs of a confirmed cold addict better than any other of which I have any knowledge. Having carried the original immunizing treatment to the point of reasonable success, I have endeavored to keep up the immunity by injecting one full dose—usually one Cc. of the selected bacterial combination—once each month, putting the time at the close of the month in order that it might not be easily overlooked. In addition to this, if at any time, as it sometimes happens, especially in the winter months, I feel the symptoms which have been my usual warning of an approaching cold, I at

once inject a full dose, with very little regard to the time when the last dose was taken; and this almost always aborts the threatening symptoms. It is probable that only a small proportion of cases would need as vigorous treatment as this; but, with me, it has worked so well that my condition has improved with each passing year, and it is now two full years since I have experienced more than the first symptoms—or perhaps I should say, the first stage—of a cold.

Certainly a comparison of the views and experiences of the readers of *CLINICAL MEDICINE* on this subject ought to be of value.

There are a number of points relating to what may be termed *the technic of the treatment*, about which I am desirous of getting the views and practices of your readers. Let us consider them in order.

1.—*The Hypodermic Syringe.* What forms and makes are best? I suppose that the majority will agree in preferring an all-glass syringe, since this can easily be cleaned and sterilized, the contained liquid is always visible and, after you have learned how to take care of it, it lasts well. I have used a number of different kinds and prefer either the genuine Luer, which is kept generally in well-stocked drug stores, and can be relied upon at all times; or else the syringe which is furnished by Dr. Sherman in a metal case, with a simple arrangement for keeping it practically sterile. One great disadvantage of the ordinary Luer is, that it is never safe to leave the glass piston in the barrel, as it is sure, some day, to dry up and stick fast, and often the barrel is broken in the attempt to get it out. In the Sherman syringe, this disadvantage is obviated by the use of absorbent cotton in the syringe-case, which is kept moistened with denatured alcohol or other sterilizing agent, which serves the double purpose of sterilizing the syringe and keeping the barrel moist on the inside so that the piston will not get stuck fast to it.

2.—*The Needle.* The needles used on all-glass syringes are necessarily of the slip-on variety, and this is no disadvantage. Many use steel needles, but some prefer gold. There are definite advantages and disadvantages of each, and a comparison of views may help to settle which is the best. The steel needle is stronger, can be made a little smaller, and can be sharpened to better advantage. The great advantage of the gold one is that it does not rust; and

this is so important that, at one time, I almost wholly abandoned steel needles and used only gold ones. But these are softer than the steel ones, hence they bend and break more readily; they dull very easily, and even if sharpened they have a blunter point, and so hurt the patient more. Now it is the patients that we have to consider, and the doctor who hurts his patients badly, when he gives them a hypodermic injection, is not likely to have so many patients to treat as those who can do the same thing easier. So, I have gone back mostly to the steel needles. At present I am trying out a dozen so-called "noncorrosive" needles, which are claimed not to rust or corrode under the most trying conditions. If on further trial they live up to this claim, I shall be glad to recommend them as furnishing the means for a distinct advance in hypodermic technic.

3.—*The Site of the Injection.* There is no fixed site for giving the injection. Any place where the skin is loose, and the needle can be readily introduced into the subcutaneous cellular tissue can be used for the purpose. Some parts are more sensitive than others, and some are more exposed to injury in case the reaction should be excessive; these things also are to be considered. Also, some parts are more readily accessible than others, and this is a point in their favor. Probably the arm is the most convenient place in case of those who come to the office for treatment, as most of them do. The upper arm is usually preferred, especially in the case of women, for obvious reasons. The chest, the abdomen, the buttocks, and the thighs are all suitable, and may be used when occasion requires. Also the skin of the back, especially between the shoulders, though here the skin is apt to be thick and hard to penetrate. When one has to inject himself, as the doctor must frequently do, the thighs and the abdomen are the most convenient sites.

An important point is that the site of the injection should be frequently changed, if injections are frequently repeated. The immunity seems to be secured through the use of the tissues, and the greater the extent of tissue, especially connective tissue, which can be stimulated to secrete the desired antigens, the more complete and lasting does the immunity seem to be. Frequent changes of locality are therefore desirable.

Most authorities advocate the connective tissue as the best place to inject the vaccine.

Some, however, advocate the muscular tissue, and even the veins.

4.—*The Injection Itself.* There are considerable differences in the technic of handling the hypodermic needle. For myself, I like a small, short, sharp needle, and to pinch up the skin between the thumb and forefinger of my left hand, while I push the needle quickly through the skin, in a direction parallel with the surface. It is well to have the patient take firm hold of some fixed object, so that there will be no starting or pulling away. Inject the fluid quickly, unless the amount is large, when it may be advisable to wait for the tissues to absorb the fluid to some extent, as otherwise the pressure causes more or less pain. The skin should be sterilized before making the injection, but no after-treatment is necessary as a rule.

5.—*The Size of the Dose.* This varies within wide limits, yet is subject to certain general principles. Some men prefer large doses, while others choose small ones. Some patients will tolerate much larger doses than others. Regard must be had for the sensitiveness of the particular patient, as shown by the degree of reaction produced. If any injection is followed by too great reaction, it is well to repeat the same size dose next time, and not increase until the reaction is normal. In prophylactic treatment, when there is plenty of time, it is best to begin with small doses—say, two or three minims—and increase quite gradually. The same is true, to a somewhat less degree, in chronic conditions and slight local in-

fections. But, in severe and acute general infections, accompanied with much fever, the initial dose may be as much as 16 minims, and in these cases there is generally very little local reaction. The general principle is similar to the dictum of Burggraeve regarding the use of the active principles: "To acute maladies we must oppose a sharp and active treatment; to chronic maladies a slow and deliberate method of treatment."

6.—*The Frequency of Administration.* In prophylactic treatment and chronic cases, the dose is usually repeated once in from four to seven days, beginning with the shorter intervals, and increasing them gradually up to one week. In acute general infections, the dose may be repeated daily and, if very severe, even twice a day, until the fever is reduced and the symptoms become less violent.

7.—*The Duration of the Treatment.* The ordinary immunizing treatment for colds consists of from three to six treatments; but, if necessary, this may be greatly lengthened. The therapeutic treatment varies in duration according to the nature and severity of the case, and especially its duration. The longer the disease has been under way the longer the treatment will need to last. I treated a severe case of boils of two years' standing, which had resisted various other treatments, from July 14, 1923, to May 17, 1924, with an intermission from January 11 to April 9; and the final result was abundantly successful.

Producing a Superior Race

By CASPER L. REDFIELD, Chicago, Illinois

(Fourth Paper)

RARELY does a person die within the strict meaning of that term. He is killed. The cause of death may be a gun, an automobile, bacteria, freezing, or any one of a great variety of agencies found in the environment. In a large majority of cases the cause of death will be a combination of things. The term "longevity" is a convenient one to represent the probable length of life, but it is slightly misleading when used for that purpose. Actual length of life is determined principally by the accidents of the environment. To illustrate what I wish to set forth, I have taken from

my records three large families of adults, and made a diagram showing the ages at death of the different children in those

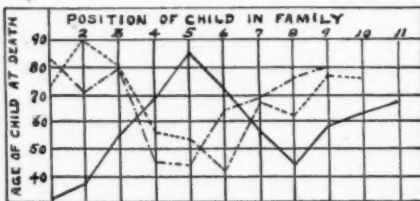


Fig. 11. Three sample families, showing the ages of death of the different children in those families.

families. One of these families contained nine brothers and sisters, the second contained ten children, and the third contained eleven. This is shown in Fig. 11.

An inspection of this diagram shows that the actual length of life of any child has no apparent relationship to the position of the child in the family. The lines run up and down without any common characteristics between the children of one family and those of any other. They indicate that if there is any biological principle involved, it is completely masked by the vicissitudes of existence. But, let us make a composite of these families.

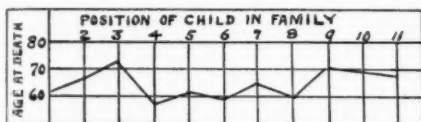


Fig. 12. A composite of the families shown in Fig. 11.

Here we see a straightening out of the line which represents the relative lengths of life of different children. The accidents causing death in different children begin to balance each other. It is conceivable that, if we should make a composite of a large number of families, the varying effects of the environment would be practically wiped out, and we would have left something which would indicate inherited longevity, modified by whatever advantage there was in being an earlier or later child of a large family.

This last is what I did. I made a composite of about 200 families, each of which had in it four or more persons living beyond 25 years of age. The reason for setting a lower limit at 25 years of age was to eliminate the question of infant mortality, which is a variable quantity and a distinct problem in a study of vital questions. An

ovum produced by a woman is not set down in our records. If an ovum goes on to the stage of being born as a baby, we put it in the records; but, if the baby dies before it reaches maturity, it is no more a part of the human race than if it had not been born at all.

Instead of trying to combine a four-child family with a ten-child family, I based my composite on the ages of the fathers when the children were born. It is evident that, if there is any biological reason why an earlier child should live longer than a later one, or that a later child should live longer than an earlier one, that difference must be due to the ages of the parents, or to something related to those ages. If a child is born when his father is thirty years of age, the biological longevity of that child is not affected in the slightest degree by the mere existence or nonexistence of earlier or later brothers and sisters.

The reason for using families of not less than four adults was to make a composite family, and not a composite of individuals. By this procedure, those persons who appear in the composite at one age of parent have actual brothers and sisters at other ages. Each parent involved has representatives at not less than four points in the composite. Grouping these by five-year periods, we have the results shown in Table XVI and Fig 13.

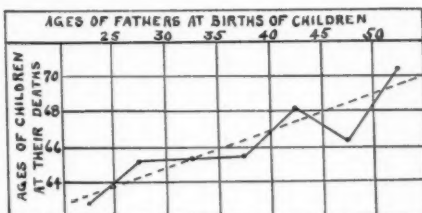


Fig. 13. Relative longevity of brothers and sisters. 1,105 cases. Data by Redfield.

TABLE XVI
Average Length of Life of Members of Composite Family.
Expectancy at Age of 25.

Ages of Fathers at Births of Children	Number of Children	Average Age of Children at Death
Under 25	83	62.63 years
25 to 29	233	65.20 years
30 to 34	266	65.28 years
35 to 39	199	65.41 years
40 to 44	165	68.02 years
45 to 49	88	66.28 years
50 and over	71	70.27 years
	1105	65.89 years

Here we see a gradual, but irregular, increase in length of life in the children as the parents grow older. As we have the same parents at both the earlier and later ages, the differences must be in some way related to the ages of the parents when the children were conceived. By running a dotted line through the diagram, we see that, in these families, each four years added to the ages of the parents at the times the children were conceived resulted in adding an average of one year to the length of life of the child.

Be referring back to Fig. 11 and the comments associated therewith, it will be seen that the actual length of life in any individual is a balance between the killing action of the environment and the resistance of the individual. A large number of the environmental attacks are of microbial infections of some kind. Like rain upon the just and the unjust, these attacks come alike to the resistant and the nonresistant. If a person is resistant, he is more likely to survive a particular attack than if he is nonresistant. Examples of this are given in the history of measles and tuberculosis, before cited.

The real reason why the children of older parents live longer than the children of younger ones is that the children of the older parents have greater resistance. For the reason why the children of the older parents have greater resistance we may look back to Table XIII and Fig. 9. (CLIN. MED., March, 1923, pp. 147-148.)

Alexander Graham Bell investigated the length of life of 2,964 members of the Hyde Family of America. Of these, 1,920 were living at the age of 20. For the purpose of eliminating the separate question of infant mortality, our analysis will be based on these 1,920 persons.

Bell went at the problem in a different way from that which I employed, but that is of particular advantage here as we can

compare the results of the two methods of procedure. I made a composite of large families on the basis of the age of the parents at the times the children were born. Bell combined families of the same size, and found out what proportion of the children of these families were living at different ages. In Table XVII, I give a condensation of one of Bell's tables with an added calculation of my own from Bell's data.

This table means that, of the total number of children born in families of one and two children, 66 were living at the age of 20, and 18 were living at the age of 60. Of those born in families of three and four, 200 were living at the age of 20, and 60 were living at the age of 60. And so on for families of larger sizes. The percentage of those living beyond 60 is given in the last column, and this is illustrated in Fig. 14.

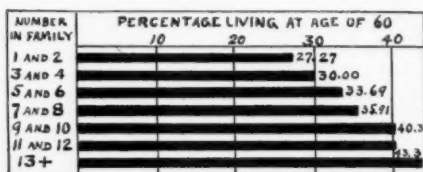


Fig. 14. Diagram showing that the percentage of long-lived individuals in a family increases as the size of the family increases. This is due to the fact that the later children live longer than the earlier ones. Data by Alexander Graham Bell.

It will be seen that, after eliminating infant mortality, the larger the family the greater is the proportion of the family that lives to advanced age. As an elder child does not have a longer life simply because he has some younger brothers and sisters, the increased length of life found in large families over what is found in small families must be due to the extra length of life found in the later children of a family. In this connection, it should be remembered that the various branches of the Hyde

TABLE XVII
Size of Family and Length of Life
Data by Alexander Graham Bell

Original Size of Family	Persons Living at 20	Persons Living at 60	Percentage of Adults Living Beyond 60
1 and 2	66	18	27.27
3 and 4	200	60	30.00
5 and 6	377	127	33.69
7 and 8	465	167	35.91
9 and 10	459	185	40.30
11 and 12	263	106	40.30
13 +	90	39	43.33
	1920	702	36.60

Family came from the same source, and married into the same average stock.

When I made up the standard distribution of children in families given under the term "normal" in Tables II and III (CLIN. MED., December, 1924, pp. 842-843), I took all births as they ran in genealogies in both large and small families. When I made up Table XVI, I took from the same source those families which had four or more survivors at the age of 25. In the middle column of Table XVI are given the numbers of persons at each five-year period. By dividing these numbers by 1,105 the reader can find the percentage of persons at each age period. By putting these percentages in a column by the side of the percentages given in the "normal" column of Table II or III, he will see that the average age of parents of large families is greater than the average age of parents of small families. Putting this fact alongside Table XVII and Fig. 14, it will be seen that Bell's data show that the greater the age of the parents when the children are born, the greater is the length of life of those children.

But that is the exact thing that I found and have illustrated in Fig. 13. In other words, if Bell had examined his data in the same way that I did mine, he would have produced a diagram corresponding closely to the dotted line in Fig. 13. If I had examined my data in the same way that Bell did his, I would have had substantially the thing shown in Fig. 14.

It is recognized that longevity is an inherited character. That is, we get long-lived children from long-lived parents. What is it that adds to the life of parents in ways other than mere escaping accidental death?

On this we have two investigations in the human family. One of these was made by J. McKeen Cattell and was published in the *Scientific Monthly* for October, 1917. The other was by A. G. Bell, and was published in the *Geographic Magazine* for June, 1919. These both show that the women who produce the greatest number of children before they are forty-five years of age are the ones who live the greatest number of years after forty-five; and the women who produce the least number of children before that age are the ones who live the least number of years after it.

The regular and continuous production of children by mothers during the child-bearing age acts to prolong the lives of those

mothers after the child-bearing age is past, and this prolongation of the lives of mothers is proportional to the number of children they produce.

And when mothers produce children regularly and continuously, there is a gradual increase in the longevity of the children she produces, with the result that later children live longer than earlier ones.

Actual length of life is the final result of the accidents of existence and the powers which the individual has of resisting death by accident. Powers are developed by exercising them, as was illustrated in Tables I and VII. Women who produce babies exercise bodily powers not exercised by women who produce none, and the extent of the exercise is proportional to the number of babies produced. The more children a woman produces, the longer she lives, as shown by Cattell and by Bell. And the more she develops her own longevity in this way, the longer her children live, as shown by me, and by Bell when his tables are analyzed.

But an animal can develop powers in other ways, and the powers thus developed will add to the length of life by helping to overcome some of the accidents which cause death. In horses, we have a record of 39 stallions of the trotting breed which lived to be more than 30 years of age, and only remarkable circumstances can produce that result. These horses were all born between 1804 and 1887. At the times when they lived, not one stallion in a hundred was trained and raced sufficiently to give him a standard record of 2:30. As a mere matter of probability, not one of these 39 horses should be a horse with a race record, or the son of a horse with a race record. But, as a matter of fact, 18 of them were horses with records, and 11 of them were sons of horses with records.

Horses trained and raced live longer than their brothers and sisters not trained and raced. And the offspring of horses trained and raced live longer than the offspring of their brothers and sisters not trained and raced. The showing in this corresponds to Visser's showing in Table V and Fig. 3.

The fact that there is greater average length of life among children of large families than among children of small families has been recognized, and attempts have been made to explain this by saying that longevity is correlated with fecundity, but

that is a misleading way of stating a fact. Longevity is not correlated with fecundity, but with the extent to which fecundity has been used in the production of children.

Fecundity in a hen is represented by the number of eggs she produces, and not by the number of eggs which are hatched into chickens. In the same way, the fecundity of a woman is represented by the number of ova she produces, and not by the number of ova which are fertilized and are later born as babies. To represent a woman's fecundity by the number of chil-

dren she produces is to assume that she will lose her fecundity if she loses her husband, and will regain it if she finds a new one.

To see that fecundity is not correlated with length of life, it is only necessary to look back to Table IX (CLIN. MED., January, 1925), which begins with rabbits and ends with man. Guinea pigs, rabbits and other animals low in the scale of evolution have great fecundity and live short lives, whereas man has the greatest length of life and least fecundity.

Benign Neoplasms of the Uterus

By R. E. BLEDSOE, M.D., Taylor, Texas

THERE is no organ of the body, either male or female, more susceptible to tumor formation than the uterus and for that reason, and because we as physicians and surgeons are almost daily called upon for advice and treatment, I selected this subject for consideration.

In order to make my paper brief and practical, I shall not go into the etiology of uterine neoplasms, but will note, in a very cursory way, some of the more common forms and the symptoms presented, which cause the patient to seek the advice and services of her physician.

Classification of Tumors

Fibroma, fibromyoma, fibroid or myoma are the most common neoplasms that develop in the uterus. They are derived from the muscular coat and are composed of involuntary muscle cells and fibrous connective tissue, mixed and mingled in varying proportions; depending upon whether muscle or fibrous tissue predominates, we speak of them as myomatous or fibromatous; from the position they occupy with reference to the uterus, we further denominate them as submucous, interstitial or subserous.

These structural characteristics are mentioned, thus briefly, in order that we may have a clearer perception of some of the signs and symptoms, as we proceed.

Submucous Fibroids

As its name implies, the submucous tumor springs from the muscularis just beneath the mucous membrane and may have a rather broad base, but, as a rule, they are pedunculated and are frequently found

as polypoid growths within the uterine cavity; many of them are rather rich in blood supply, or, because of a rather detached and free position, often give rise to troublesome and persistent hemorrhage; there is a marked tendency in many of them to degenerate and slough and by their presence excite uterine contractions; and were the uterus pregnant, abortion or miscarriage would supervene.

I have observed several abortions and miscarriages that I was able to trace, directly, to the presence of such tumors as these. I recall one very interesting case that occurred many years ago in my early practice that caused me great worry from the symptoms of painful contractions and persistent hemorrhage. Fearing a placenta prævia, I was, however, able to exclude this condition, but painful contractions and hemorrhage persisted, in spite of repeated and heavy doses of narcotics, so that, because of pronounced anemia and invalidism, I terminated gestation at about seven months.

There was terrific hemorrhage during this operation, but after I had removed the fetus and secundines I encountered a very hard, globular mass, about the size of an orange, which, with very little traction, came away, after which hemorrhage was quickly controlled. The globular mass was very much harder than the majority of submucous fibromyomas and on section proved to be composed almost entirely of fibrous tissue.

While Credé (if you will permit the term) this uterus, I was enabled to map out several hard masses—interstitial fibromata—throughout the womb and these, doubt-

less, were the cause of the painful contractions during pregnancy and of the extreme suffering at each monthly period, in spite of a very copious flow.

Polypoid Growths

You have all, no doubt, noticed those small polypoid growths that occur about the cervix or internal os, which rather often give rise to persistent bleeding, exhibiting a tendency to slough, with a foul smelling, sanious discharge, causing one to suspect malignancy.

I desire to mention one such case for the reason that the tumor here acted as a bar to conception, having its origin about the internal os. It was brought to our attention by a continuous, foul smelling, sanious discharge and, on removal, proved to be of submucous variety.

I had supposed that this lady was engaging in the very fashionable and all pervading habit of preventing conception, until I became aware of this growth and received her earnest assurance that she desired other children. After the lapse of several months, the lady became pregnant and I decided that the growth had been responsible for her temporary sterility, her child at that time being some twelve years of age.

A pure myoma is rarely, if ever, seen. I have never encountered one in several hundred operations. As the name implies they are, or would be, composed entirely of muscle tissue, are interstitial in character and tend to be symmetrical in formation.

A Case of Myoma and Other Things

I am rather unfortunate in the loss of a beautiful, symmetrical uterus, the most nearly myomatous I have ever seen, which showed how such a tumor, of such perfect symmetry, might readily be mistaken for a pregnancy, especially in a married woman. This was from a virgin, some 24 or 25 years of age, who was operated upon by me twenty-two years ago and, as the case presented so many unique and, to me, startling features, I thought it might prove of interest.

Symptoms referable to the uterus dated back two or more years and had been variously diagnosed as menorrhagia, hypertrophic endometritis, etc. She had been subjected to various forms of treatment, including several curettements, but all without benefit. Because of emaciation, rapid increase in the size of the tumor and pronounced anemia, she was started to Galves-

ton for operative treatment, but was first brought to me for an opinion.

Briefly, the patient showed great prostration (at the time of my examination she weighed about 80 pounds); marked anemia; an afternoon temperature of 100°; a sanious vaginal discharge and a mass about the size of an eight- or nine-months' pregnancy (viewed from the standpoint of the diminutive size of the patient) occupying and embodying the uterus, with much tenderness, intensified by marked hyperesthesia.

I delivered myself of the opinion that the case was of a myomatous nature and that a hysterectomy was indicated as soon as the patient could be gotten in condition. This diagnosis was concurred in by her physician who had accompanied her, and he, together with her relatives, insisted that the work be done at once and that I do it then and there. I was full of surgical enthusiasm at that time, having practiced only about four years, as the surgeon of a privately-owned hospital, and I rushed in where angels would have feared to tread.

Having no trained nurse, I prepared the patient for the operation myself and, sending to an adjacent town for competent assistance, we proceeded with the hysterectomy. The operation moved along nicely until I came to the enucleation of the cervix, when I asked my assistant to introduce a sound into the vagina that I might have a landmark to cut down upon. As the vagina had had no especial preparation, he merely raised the sterile sheet and introduced the sound into the vagina. I remarked that the sound—a No. 30 F.—seemed to occupy a rather peculiar position; but, as, he answered, it would be a physical impossibility to put it anywhere else, I cut down upon it and went into the bladder.

I will state here that the accident was in nowise due to any fault of my assistant—he was the best assistant I have ever had and is as competent as any man in the state—but came about, solely, on his part, because of a laudable desire to be rigidly aseptic; and I honestly believe that no one could again have introduced that large sound into the urethra without inspection, in a thousand trials.

The accidental cutting into the bladder caused me to leave the stump of the cervix, as a sort of buttress, after having repaired the bladder wound.

The patient rallied nicely from the operation and there was scarcely any nausea

from the anesthetic; but, on the third afternoon following operation, the temperature went up to 103° instead of leaving, as I had expected that it would, after my having, as I thought, removed the exciting cause.

Because of the bladder wound and consequent soiling of the field of operation, I became convinced that I had pus in the culdesac; consequently, I administered a little chloroform and opened up the culdesac, but there was no pus there. Then I removed the lowest abdominal stitch, and, after a time, became convinced, again, that there was no pus.

I was excessively busy at that time, doing about three doctors' work, alone, and had not taken time to make a white count or, in fact, to make a blood examination. I concluded that I was in for some form of pyosepsis and the best I could do was to crowd the nourishment and support the patient as best I could; accordingly, nourishment was forced, which set up painful peristalsis, elevated the temperature and passed undigested.

Necessity for Careful Study of Cases

This condition of affairs caused me to do a little thinking, perhaps the first since I had seen the young lady, and I decided—if you will permit a cant phrase—that there was something the matter with this patient besides what ailed her; so, about the seventh or eighth day after operation, I took some of the patient's blood, which, in addition to a marked leukopenia—about 4000 whites—gave a positive agglutination test for Eberth's bacillus.

Stopping my search for pus, I gave my patient a chance to recover, which she did, and I will say that I never saw a wound heal more kindly, in spite of the typhoid fever and her doctor.

Had I taken the necessary time, in the beginning, to make the proper examination of this patient, I certainly would not have selected the first week of an attack of typhoid fever in which to do a hysterectomy on an already emaciated and debilitated patient. I never think of this case but I recall the poor woman of Luke's gospel who had suffered many things at the hands of her doctors.

I must call attention to the adenomyomatous growths which are sometimes found about the tubal orifices containing, besides the cells composing ordinary fibromyomas,

epithelial tissues showing their derivation from the Wolffian body. Displaced in the process of development and as embryonic inclusions, these structures give rise to new growths, which are subject to various degenerative changes and, after pregnancy or the menopause, undergo atrophy.

Subserous Tumors

The third, or subserous, variety springs from the most superficial part of the muscularis of the uterus and projects into the peritoneal cavity, intimately connected with, and covered by, the peritoneum, displaying a marked tendency to adhere to the intestines and adjacent sexual organs. As a rule, they are connected by a rather short, constricted pedicle, although some of the larger growths are pedunculated and may undergo kinking and torsion.

These tumor growths are to be found in women of all races and climes although, in my limited experience, they display a predilection for the negro race, particularly, in the so-called "mule negro", viz. half-white, and to occur in the nonparous, between the ages of 25 and 40 years, being incident to the period of menstrual activity.

Symptoms

Pain is a fairly constant symptom and, of course, depends upon the location, size and complications; thus, with great adhesions, a hydro- or pyosalpinx with considerable hyperplasia, we would expect, and, in fact, do find, much pain and tenderness; particularly is this true at the time of the periods from exercise, undue motion, etc.; but the symptom I desire to emphasize is *hemorrhage*.

Hemorrhage, while it is not invariably present, has been, in my experience, the most marked and conspicuous symptom. I am accustomed to thinking of fibroids when I am consulted for profuse and painful menstruation, or metrorrhagia, where other obvious causes can be eliminated. Every one of you who is accustomed to this class of work has doubtless observed pronounced anemia, hemic heart murmurs and alarming prostration from metrorrhagia or metrorrhagia.

Treatment by drugs, massage and electricity we may dismiss with the one word: inadequate. If the uterus is the site of one or two small fibromyomatous masses, they may be enucleated satisfactorily, in some cases; however, it is my opinion, based

upon several years' experience, that, where the uterus has once been involved by neoplastic growth, during the woman's menstrual life, it is more than apt to be again, and I always feel that I have done better surgery and my patient has a deeper appreciation and sense of well-being after I have removed the organ entirely; meaning, of course, in the second and the third types.

Conclusions

1.—The human uterus, during menstrual life, is prone to neoplastic growths.

2.—Parous women seem more prone to the submucous variety, i. e., fibromyomas and so-called mucous cysts.

3.—Nulliparous and unmarried women show a greater susceptibility to the interstitial and subserous varieties.

4.—While every race is prone to these conditions, the mulatto negro seems particularly susceptible.

5.—Pain is a prominent symptom in the second and third types, depending upon location, size and complications.

6.—The only treatment worth consideration is operative.

7.—The predominant symptom, and the one the author wishes to stress, is hemorrhage. Where other causes can be eliminated, the gynecologist should always suspect "fibroids."

Prevention and Control of Hemorrhage From the Tonsillar Fossa

By CHARLES C. MILLER, M.D., Chicago, Illinois

I WOULD not write upon this subject had I not seen, more than once, the ineffective struggles of surgeons with this condition. I have seen postoperative bleeding where the efforts of the surgeon were so futile that patients were finally etherized, and, under difficulties which should have been avoided, the pillars of the fauces sutured together.

With all enucleation technics in which the entire tonsil is removed, we have more or less excessive hemorrhage in a definite percentage of cases and effective prevention is only possible when the operator masters the technic of direct ligation of bleeding points. With adrenalin added to the anesthetic solution, we have less primary hemorrhage at the time of operation, and a somewhat greater tendency to delayed bleeding. Many cases of prolonged bleeding, however, bleed from the time of operation, and it should be the practice of the surgeon not to put the tonsil patient to bed until all hemorrhage has been controlled.

For conditions of this kind, numerous methods have been advocated to check bleeding. Astringents are habitually used by some operators, but there is no technic which equals that of direct application of the hemostat to the bleeding point, and ligation of that point before removal of the hemostat. Such a method permits the most effective control of bleeding in tonsillar operations, and it is worth the while of any surgeon to master the details of the

method. This direct method should be practiced as a routine during operation, and if the patient is properly prepared and certain precautions are taken, it is an effective way in any case except that of the bleeder. Adult patients should always be operated on with local anesthesia, reinforced by scopolamine-morphine injections.

Local Anesthesia

When the patient has not been operated on under the influence of scopolamine-morphine and persistent bleeding follows the operation, this drug compound should be given hypodermically. The most satisfactory dose is $\frac{1}{4}$ gr. of morphine and $\frac{1}{100}$ gr. of scopolamine. With this, all nervous excitement is controlled, and patients are easily handled. Major effects are not obtained until 40 to 60 minutes after the injection.

When this compound is given before operation, the great advantage to the operator is in the control of the patient. The narcotized patient will hold the mouth well open and breathe in such a manner that the tongue is kept down.

After this injection, at the time of operation, procaine with adrenalin is injected under the tonsil. It is my practice in tonsillar excision to inject a 1-percent procaine solution. To this solution is added 3 or 4 drops of adrenalin, 1 to 1000 solution, to the ounce. Nurses should be impressed with the importance of counting the number

of drops of adrenalin added to procaine solutions because excessive doses of this drug are not desirable.

When tonsils are injected with procaine, the injections should be largely under the tonsil. Operators recommend that it be used through the pillars, but I prefer to pass my needle directly through the tonsillar tissue. Tonsils are less sensitive than the pillars.

When one is dealing with bleeding, if any tonsillar tissue remains in the fossa, one should remove it with scissors. A fossa free from remnants of diseased tonsil, may have in it points from which too much bleeding occurs, and it may be necessary to tie several of these points during operation.

To control bleeding from the tonsillar fossa, the patient should be in the sitting position, with a nurse holding the head level. The operator should reflect his light into the pharynx, and should see that the patient is breathing in such a manner that the tongue is down. If the patient's tongue rises into the field, and obscures it, the patient is required to breathe deeply through the mouth. This will usually relax the tongue so that it will drop out of the field.

Technic of Ligation

The tongue should be down but not held down with a tongue depressor. A tongue depressor is a great nuisance to the throat operator, and patients should be required to breathe in such a manner that it is not needed. To catch a bleeding point in the fauces, the operator should have in his right hand a good tonsil hemostat. Personally, I favor one with a slight curve at the tip. In the tonsil hemostat, there should be a sponge of gauze barely large enough to fill the tonsillar fossa. The surgeon should have nothing in the left hand. The sponge should be pressed into the bleeding fossa, and should be *held there* until the patient is steady, tongue down, and mouth wide open. The surgeon's left hand should be at the patient's lips, and he should have nothing in this hand. With a quick twist of the wrist, the pad in the fossa is lifted to the lips of the patient. As the operator removes the pad, he should *watch the fossa*. If the patient is properly under control and the tongue is relaxed and down, the operator can easily spot the bleeding point or points. Just the instant the hemostat point with the sponge in it reaches the lips of the patient, the pad is lifted from the hemostat by the

left hand of the operator, and the tip of the hemostat should make an immediate quick return to the fossa. Before the field is obscured with blood, the hemostat is snapped directly upon the bleeding point.

I want to impress upon my readers, the importance of following the details of this procedure. The *hemostat* should carry a sponge. A sponge-holder has no place on the table of the tonsil operator, operating with a local anesthetic. Just at the instant that the sponge is removed from the bleeding fossa, the operator should see the fossa and, just as quickly as possible, should, with his left hand, lift the sponge from the hemostat and carry the tip of the hemostat directly back to the bleeding point. The whole procedure can be done so quickly, that bleeding points can be picked up with absolute precision.

When the hemostat is snapped on the bleeding point, the operator allows it to rest upon the teeth of the patient. If the operator is slow, or if the patient, from a lack of control, raises the tongue so that the fossa is not seen, the procedure should be repeated. This can be done several times, in a very short period. It takes only a second to put a dry sponge into the grip of the hemostat and insert it in the fossa. It takes but a second to withdraw it, but it should be *held there* until the patient's throat and tongue are quiet, and the mouth wide open.

When a point has been snapped, it is not necessary to leave the hemostat in position. During an operation, a number of points may be so snapped, and the hemostats would be in the way, so the next simple step is to ligate the bleeding point.

Surgery is a bag of tricks, and some of our most effective tricks, when analyzed, are very simple. Ligation of a bleeding point which has been snapped with a hemostat is a very simple thing to do. It is not necessary to reach in with a needle and stitch the ligature in place. If the operator will master the details of this technic, it is very easy to quickly tie a bleeding point, cut the ligature, and remove the hemostat, and find the bleeding point safely controlled.

To do this in the right way, the ligature itself should be at least 12 inches long. The tie should be made about the hemostat with one-half the ligature on one side, and one-half on the other. This tie should be drawn down until it fits loosely over the hemostat, leaving just enough room to insert the point of the index finger of the right hand into it.

The operator now slips it along the hemostat until it is against the faucial wall. The ring and little finger of the right hand should hold one end of the ligature against the palm of the hand. The other end of the ligature should be held with the index finger and thumb of the left hand of the operator. When the ligature has been pushed *well over* the point of the hemostat and is held by the index finger of the right hand of the operator against the faucial wall, it is drawn taut, and in doing this a certain particular method should be used. The ligature should come under the palmar surface of the right index finger and the end held by the index finger and the thumb of the left hand should be drawn across the nail of the right index finger, which should be directed upwards. This brings the end of the ligature held in the right hand under the index finger, and the other end over the index finger across the nail. The ligature should be drawn taut with a steady even pull. Only one finger of the surgeon is in the mouth of the patient. It is no uncommon thing to see an operator, who has not mastered his technic, try to put too many fingers into the mouth of the patient. Even a patient who has had scopolamine-morphine will have room for only one finger in his mouth. The operator cannot put both index fingers into the mouth of the patient and work with any accuracy; he should not even try. When the first tie is made, it is a simple matter to push down a second tie, then the ligature should be cut short before the hemostat is removed.

We must not forget that the hold of the ligature may not be particularly strong, but it is ample if it is tied snugly, and the operator has mastered the technic. The bleeding points are small, and need for a very tight ligation is not imperative.

Primary Ligation

The clean tonsillectomy by dissection is best done with all bleeding points ligated after the tonsil is removed from the fossa. In other words, if we dissect loose and remove the right tonsil, we should control the bleeding from all points which show, by the technic just described, before removing the second tonsil; and when the second tonsil is removed, the same procedure should be practiced upon all bleeding points seen. Sometimes a patient with a vascular fossa will require several ligatures on each side, but to the practiced surgeon, the technic is so easy that it takes very little time.

Hemophilia

There is one type of bleeding, which this technic will not control; that is the bleeding of the hemophilic, a condition due to retarded clotting of the blood. This requires constitutional treatment. Local treatments are not usually effective. Perhaps dried blood serum is worth trying as a topical application. This is put up in convenient form and is dusted on a sponge and inserted into the fossa and held there. If it does not stop the bleeding promptly, a transfusion is in order. If a donor is not available, and it is necessary to type the blood of the patient and donor before giving the transfusion, it may be worth while to use horse-serum injections. These injections are easily made, and during the time that passes after their use, the blood of the patient may be typed with the prospective donor.

Blood transfusion, using the sodium citrate technic, is an extremely simple procedure. No operator, however limited in surgical experience, should stumble in giving it. A man can hardly fail to make a successful transfusion providing he understands the steps of this procedure.

The apparatus needed for giving a blood transfusion, using the sodium citrate technic, is very simple. A large aspirating needle which can be attached to a rubber tube is required. This large needle should be of a 10, 12 or 14 gauge, and should have a butt over which small rubber tubing may be slipped. In addition, several feet of rubber tubing are needed which may be sterilized thoroughly by boiling, and a container which will hold from 300 to 500 Cc. of liquid. This container should have an attachment at its base which will allow the tubing to be attached to it. The sodium citrate solution ordinarily used is made up of the C. P. drug. For each 10 Cc. of blood drawn, 1 Cc. of a 2½-percent sodium-citrate solution is used. This solution is placed in the container into which the blood flows. If we desire 300 Cc. of blood, we take 30 Cc. of the 2½-percent sodium-citrate solution.

Technic of Transfusion

A rubber tourniquet is placed around the middle of the donor's arm, and the elbow vein distended. With a hypodermic syringe and fine needle, we insert a few drops of 2-percent procaine solution over the vein. The 10 or 12 gauge aspirating needle is now passed into the vein, and the blood immediately begins to flow. It is allowed

to drop directly into the open vessel containing the citrate solution, and the citrate solution and blood are stirred together with a sterile, glass rod as fast as the blood flows into the container.

After the blood has been citrated, it may be kept at room temperature for some time before injecting it into the recipient. In fact, in the treatment of chronic blood dyscrasias, blood drawn and citrated is placed in the icebox, sometimes for many hours, before it is used. This blood is merely warmed to room temperature before it is injected.

In transfusing for hemorrhage, of course, no unnecessary delay is tolerated by the operator; but the point I wish to make is that no unnecessary haste is called for when the citrated blood is to be transfused. The arm of the patient should be surrounded with a tourniquet, as was that of the donor. The vein at the elbow should be injected with procaine, just as was the vein of the donor. The large needle is inserted into the vein, and as soon as blood flows from it, the tourniquet is removed. In this respect the technic differs, for when the blood was withdrawn from the donor, the tourniquet was left on until all the blood had been withdrawn. When the blood is transfused into the patient, the tourniquet is removed as soon as the large needle is inserted into the vein. The blood is allowed to flow in by its own weight. The container with the citrated blood is held above the patient, being connected with the needle in his vein by the rubber tubing.

When blood has been typed and we know it will be compatible, we need not be slow in our transfusion; but, if, in the emergency, the operator has not been able to have the blood typed, and is taking a chance of compatibility, the first flow of blood should be very slow, and the patient should be watched very carefully, for, if the blood of the donor and recipient are not compatible, the recipient will show signs of illness or of shock. In such case, the transfusion should be immediately stopped.

If the operator is in doubt, and the emergency is not extreme (and it should not be, because hemophilia should be recognized rather promptly), then the operator had best merely inject 20 or 30 Cc. of blood, and wait

a few moments to see if it disturbs the patient. If the disturbance of the patient is not manifest, then the larger amount needed to control the bleeding in hemophilia may be transfused. Usually 200 or 300 Cc. should be used in these cases. If the blood has been typed, then 400 or 500 Cc. may be used, because any strong donor can give up this much blood without material inconvenience.

Secondary Hemorrhage

There is another type of hemorrhage which is worthy of mention. This is the secondary hemorrhage of infection. We sometimes see it following tonsil operations, because we know that the fauces are never sterile and that the tonsils often harbor the germs of sepsis.

When secondary hemorrhages occur, it is the result of inflammation of the vessel walls, and of septic destruction of the clots formed in the vessels. As the tonsillar vessels are small, this does not often happen. Such hemorrhage occurs several days after the operation and is to be controlled as a primary hemorrhage. It should be, to the surgeon, an evidence of the need for care in the surgical treatment of the tonsils.

Use of Antiseptics

All of us who have operated much in the oral cavities, and who have made incisions through the mucosa where sterilization has not been possible, realize the great advantages of the immediate application of strong antiseptics, just as soon as a wound is made. It is my experience that time is a very important factor in the application of antiseptics. The most efficient antiseptic is much less likely to prevent infection if it is applied hours after a wound is made. So every operator, as he concludes his enucleation of tonsils, may find it worth while to cautiously apply some of the stronger solutions to the tonsillar fossa. They may not prevent some signs of infection, but such applications do prevent dangerous infections; and, if it is made a routine practice to conclude all tonsil enucleations by the cautious, but thorough, application of very strong germicidal antiseptics, the operator will never have cause to regret it.

The Country Doctor and the Country Hospital

By B. B. PARKER, M.D., Allerton, Iowa

IN THIS day of advanced medical science, with its seven-year undergraduate requirements and multitudinous scientific apparatus, which we are taught is necessary to the successful diagnosis and treatment of the sick and afflicted, it is not surprising that young graduates do not take kindly to small community locations.

To my mind, there are three good reasons why physicians do not take up country practice:

1.—It now takes nineteen or twenty years to secure sufficient education to be allowed to practice medicine and surgery (conceding that the Chiropractor can accomplish the same in six weeks to six months).

2.—Many thousands of dollars are spent in education and equipment.

3.—There is a lack of hospital facilities in rural districts. There are, of course, many other reasons that might be mentioned, but it is the last of these three which I wish to discuss.

Having practiced for ten years in a town of one thousand souls and having experienced the vicissitudes of country practice with its snow, cold, mud and rain, its inconvenience and inaccessibility, its lack of hospital and laboratory facilities, I came to that period of unrest, experienced by many men, which drives them to seek city locations.

While considering how to dispose of my location and find a suitable one elsewhere, a proposition was made to me by a lady who had a spare room or two and desired to have them occupied. While talking to her, it occurred to me that I might make use of her rooms as a sort of rooming house for the sick and, after considerable persuasion, I secured her agreement to furnish room and board and ordinary care for any patients I desired to place in her rooms.

No definite plan was, at first, evolved; but, in a few days, a prospective herniorrhaphy appeared, and the patient requested that I accompany him to a distant hospital for an operation. Instead of readily acceding to his request, I informed him I had established a private hospital in the town and that we were prepared to take care of him near home. Much to my surprise, he approved the idea.

Arrangements were quickly made to convert one room into an operating room and to secure the services of a trained nurse.

In due course, the operation was performed and a completely successful result was attained.

From this accidental beginning evolved a local hospital plan which has proven such a satisfaction that I feel justified in presenting this paper in order that other men may be stimulated to establish similar institutions in their small country locations.

This little hospital was arranged and the business conducted in a five-room cottage with a basement. Many times we set up the operating room and, after completing the operation, converted the same room into a bedroom for the patient, as on several occasions we had four patients in the building at one time.

Previous to this arrangement, I did an occasional major operation in the home, but practically all surgical cases went to hospitals from thirty to one hundred miles distant. It required a large amount of educating to change the trend of thought and I had not only the habits of the people to modify but, unfortunately, also to contend with the professional jealousies of local physicians.

Gradually, more patients were secured until, on account of limited space, it was necessary to limit admissions to surgical cases.

After about two and a half years, an opportunity opened whereby I secured the second floor of a larger dwelling house under similar arrangements. Here we were able to equip a permanent operating room and have beds for five or six patients.

Sufficient equipment was placed in the operating room to supply the needs for any ordinary major operative procedure. Probably the most important and most convenient single articles were an American High Pressure sterilizing unit, consisting of two eight-gallon water sterilizers, one dressing drum, and one instrument sterilizer, all electrically heated.

The financial arrangements are such as might be duplicated in any small town in which a large dwelling house is owned by persons not requiring all the rooms and

who are not adverse to adding to their income.

The proprietor furnishes rooms, board, heat, light, water and laundry for patients, and in return receives twenty dollars per week for each bed occupied; also one dollar per day for nurse's board. She furnishes the operating-room rent free, together with heat, light and water for same, but the equipment and supplies for the operating room are provided by the physician as are, of course, all medicines and surgical supplies needed in caring for the patients. The patients pay their own hospital bill and in no case does the physician stand good for the same.

One registered nurse is kept in charge all the time and relief or extra duty nurses furnished as needed. The nurse receives regular nurse's pay when caring for one patient, i. e., six dollars per day, and eight dollars per day when taking care of more than one. When no patients are in the hospital, the nurse rests, on her own time and expense. In this way, no salary is paid out by the physician for nurses, but, as there are usually several patients to take care of, the nurse receives better pay than when on strictly private duty, even though there are times when she does not have any patients.

We make a charge of from five to ten dollars for use of the operating room, which about pays for supplies and depreciation on equipment.

In short, we have a privately conducted hospital at which patients may receive satisfactory care for any ordinary condition and at a rate which the middle class can afford to pay. Patients are taken as they come and each of those connected with the care of them takes his own chances in regard to securing pay for his services. However, it is our experience that, by using team work as well as head work, we collect a high percent of all bills for service.

Many mistakes have been made and many wrinkles have had to be ironed out; some are still to be ironed out, but we have accomplished a great deal and have devel-

oped an institution that is of value to the community as well as a business and income producer.

I might add that I have, from necessity, developed what I call a one-man technic which allows me to accomplish satisfactory results with only one nurse as an assistant and the anesthetist. By training my regular nurse as a first assistant, I find that she is as useful as an M. D. and is always available.

Our surgical team consists of the surgeon, first assistant, anesthetist and, last but not least, the nonsterile nurse. A great deal of the success of any operation depends upon the training and skill of the "dirty" nurse. My wife has acted in this capacity for several years, until she is a past master in the art, and I pause to do her homage.

Of course, we do not perform ten or fifteen operations every day, but we did do forty-two major operations last year, in a small community, and that means five thousand dollars kept in our practice instead of sent to some city colleague.

For the following reasons, I believe this kind of an arrangement pays:

- 1.—The satisfaction of being able to successfully handle the large majority of your clientele's requirements.

- 2.—Bringing the physician in contact with cases he would not see under different circumstances, thus increasing his knowledge.

- 3.—Allowing the physician to perform many operations he would otherwise necessarily refer to colleagues, thus increasing his ability.

- 4.—From financial motives, it pays to retain the surgical fees that would otherwise go elsewhere, and thus give the physician an opportunity for postgraduate work and a fuller life.

- 5.—As a community asset, it pays dividends in the saving of lives in emergency cases, and it gives the physician the solid and lasting satisfaction of feeling that he is doing a worthy work and rendering a true and valuable service to his patients and his community.

Blood Pressure Gauges

By CHAS. T. BUCKINGHAM, Washington, D. C.

Formerly with the Bureau of Standards.

THE circulatory system of the human body, as everyone knows, consists essentially of the heart, arteries, capillaries and veins. All are necessary for the correct functioning of the human mechanism. The volume of blood is fairly constant in normal individuals but varies greatly in pathological conditions. The heart keeps the blood in circulation through the arteries which extend to all parts and organs of the body. From the arteries it spreads out through the minute capillaries and then into the veins where it is collected and returned to the heart. It is then pumped to the lungs for purification and returned to the heart where the cycle begins. While circulating, the blood is subject to any number of changes, both physical and chemical; but, what is of interest here is the fact that the circulating blood is under pressure.

By blood pressure is meant the pressure exerted by the blood on the walls of the vessels in which it is flowing. The pressure in the arterial system is maintained by the elasticity of the vessel walls and by the tendency of the inflow to remain in excess of the capillary outflow. The contraction of the left ventricle supplies the energy or pressure which drives the blood through the arteries. It is this pressure that varies to some extent in every pathological condition, and of late the medical profession has come to utilize these variations in diagnostic disease.

Blood pressure determinations have become one of the most important factors in life insurance examinations. Insurance companies have come to learn that these determinations present one of the most accurate ways of determining, in a general way, the actual condition of the applicant's circulatory system.

Method of Taking Blood Pressure

Blood pressure is measured indirectly. The bare left arm of the patient is usually selected and around it is wrapped an arm band containing a rubber bag. There are two rubber tubes leading from the rubber bag; one of these is attached to the pressure gauge and the other to a hand pressure pump. An ordinary pressure gauge graduated in millimeters of mercury is used. After everything is ready and the condition of the patient is satisfactory, so

far as mental and muscular tension is concerned, the hand pump is used to increase the pressure in the arm band and the pressure gauge. This is increased until the circulation is cut off in the arm. Then the pressure is gradually decreased. When the first sign of resumed circulation is noted, with decreasing pressure, the reading on the gauge at this point is taken. This is called the systolic pressure. With the pressure still decreasing gradually, the diastolic pressure is taken when the first sign is observed indicating that the compressed vessel has resumed its ordinary position. The auscultatory method for the determination of these two points has been found most satisfactory.

The average physician of today does not take accurate blood pressure readings of his patients. His knowledge of the principle upon which a sphygmomanometer operates is lacking, especially when the aneroid type is considered. He does not realize the care which a simple pressure gauge for this purpose requires. His knowledge of the instrument is usually obtained through the salesman who sells it to him. It is presented as fool-proof and forever accurate. The physician, like the average person, looks at the instrument as if it were as sturdy as a steel bridge.

Aneroid Instruments

The men and manufacturers who sell aneroids have, in some cases, claimed, in their advertising circulars, that an aneroid is not a spring instrument. However, the aneroid absolutely is a spring instrument, since its readings depend upon the elastic properties of metal.

The average physician lacks the knowledge of physics or mechanics to realize that an aneroid will age. This aging property applies to the pressure element of an aneroid and means that the elastic properties of the diaphragms change gradually when continually deflected. How it ages depends upon the manufacturer. This cannot always be controlled, and it often happens that, after an instrument of this type has been in use for a year, its calibration will be changed as much as 5 millimeters of mercury. A physician hardly even realizes that, should the instrument be dropped with no apparent injury, it might

be damaged to such an extent that when used for taking blood pressure it would read abnormally high or low. All these things taken together have discouraged and are discouraging the use of aneroids, and at the same time are increasing the use of the more accurate and reliable mercurial manometer.

Mercury Sphygmomanometers

The mercurial sphygmomanometer is nothing more than an ordinary glass U-tube mounted in a box with a convenient scale. Some manufacturers make one leg of the U-tube large enough so that it is only necessary to read one leg. This is called the reservoir type. If the instrument is constructed and calibrated properly, as it is by some manufacturers, the average physician can depend upon the blood pressure readings he takes, provided his technic is good and the tube and mercury kept clean.

There are a few objections to mercurials, such as size, fragility, and the necessity of cleaning the mercury and tubing. Mercury will oxidize when exposed to air, causing it to stick to walls of the tube and thus producing an imperfect meniscus, which makes it very difficult to read and results in readings which are not at all reliable. The essential parts of the instruments being constructed of glass accounts for their fragility; and large bore tubing is necessary to reduce capillarity. The instruments are therefore large when compared with aneroids.

The most serious trouble arises from the fact that the instruments are so simple in construction and operation that they are neglected and abused beyond belief. There have been cases where a physician would substitute new parts for those broken, in his mercurial, without any further calibration. They do not seem to realize that the sphygmomanometer is usually calibrated individually and that, in most cases, each one has a somewhat different scale. This applies to practically all the best makes of aneroids and mercurials. Some cheaper and generally unreliable instruments have a uniform scale which is interchangeable, but it is impossible to make glass tubing of uniform bore on a commercial basis, and this negatives the accuracy of any instrument which uses a standard uniform scale.

Another case of improper construction which would cause serious errors is when the manufacturers use a uniform scale on

a reservoir type manometer and do not take into account the fall of the mercury in the reservoir. This would cause a tremendous error at the top range of the scale, and unless such an instrument were checked against a standard U-tube the average physician would not know the difference, and would continue taking false abnormal blood pressure readings.

Care of a Mercury Instrument

It has also been seen that when a physician's mercurial becomes so dirty that it detracts from its good appearance, he decides to clean it on general principles. Usually, he doesn't know how to begin or what to use. Probably he has returned it to the manufacturer several times, but he needs it every day in his office now, and perhaps it would return broken in shipment. He decides to do the job himself and in several days he buys a new aneroid—one which he can bang around and throw in his little black medicine case with the rest of his implements, and which needs no cleaning.

One of the physicians with whom the writer came in close contact represented the average practitioner in the care and use of instruments. He was on the examining board of a well-known insurance company and had taken the blood pressure of a man forty years of age, who was seeking insurance. From the blood pressure determinations, the man was put on a diet and told that he was in grave danger of his life, for his blood pressure was extremely high. After several months' treatment his pressure didn't decrease appreciably, and he became skeptical of the examining physician and his sphygmomanometer. He went to a laboratory where sphygmomanometers are tested and told his story. They advised him, after checking his blood pressure, to have the insurance examiner bring his instrument to the laboratory and have it checked. This procedure was followed, and although the physician and the laboratory men could not check the man's blood pressure within 5 millimeters, between them, with an accurate instrument, it was found that his pressure was as much as 10 millimeters, (average of six determinations) lower than reported by the insurance company. The insurance company's instrument was examined, and it was found that the scale was of uniform graduations, the mercury was dirty, and that the present physician had replaced the tube and reservoir

since the original was broken. The physician claimed the mercury to be clean as he had just washed it with hydrochloric acid. This was done apparently with the mercury still in the tube. There was a white film about the walls of the tube and it was impossible to read the instrument. After showing the physician wherein he was not treating his instrument properly, he remarked that it had never occurred to him that such a simple instrument required any delicate care.

It is true that the practicing physician does need a fool-proof instrument and one which would require very little attention, but this is to be developed in time to come. At present the mercurial is probably the best possible instrument, although it is troublesome and cumbersome to carry about.

The Manufacture of Sphygmomanometers

Since the World War and the increase in insurance activities, the demand for blood pressure apparatus has been on the increase. Keen competition has tended to make the instrument more accurate, more portable and cheaper. However, these are not always the selling points, and it often occurs that a physician will buy the most inaccurate and most expensive instrument

if the case matches his office furniture. There is also prime importance in the fact that some of the most expensive instruments on the market are badly misrepresented by advertising literature.

Testing of Instruments

All types and makes of sphygmomanometers are accepted for calibration or investigation at the United States Bureau of Standards at Washington, D. C. A small charge is made for this service.

During the year of 1921 they carried out an investigation of blood pressure instruments. A tolerance of errors for such instruments was established and all instruments requested to be certified have to be within this tolerance before a certificate is issued. The results of this investigation are reported in the Bureau of Standards Circular No. 51.

The work at the Bureau of Standards has led many manufacturers to send quite a few instruments in for calibration, and after having had them certified, sell them as Bureau of Standards certified instruments. However, this is entirely too expensive, and the usual procedure has been to have one standard instrument calibrated at the Bureau, and to calibrate their remaining production by these standards.

Vaccinal Treatment of Pulmonary Catarrhal Affections

By DR. B. SHERWOOD-DUNN, Nice, France

Officier d'Academie, Membre Correspondent Societe Obstetrique et Gynecologique de Paris,
Ex. Colonel Medical Corps of the Army

CONSIDERING the frequency with which asthma is encountered, we seem to have made hardly any advance in our knowledge of its etiology; and, yet, there is probably no malady with which the human race is affected that has given rise to a greater variety of therapeutic experiments.

Among the multitude of chemical agents that have been tried in this affection, including the organic extracts, there are none that have given sufficiently satisfactory results to be adopted as a regular treatment. On the contrary, the vaccinal treatment of disease has given me such universal satisfaction that, when I failed to secure favorable results from the employment of the autovaccines for the relief of the diverse affections of the respiratory apparatus, I was persuaded that, in the preparation of the autovaccines, they were subjected to a

technic of such delicacy as to leave more than one opportunity for failure and that their preparation was too much prolonged.

Stock Vaccine

I commenced a series of experiments with stock vaccines changing their formula slightly from time to time, and have obtained, in their employment, some surprisingly satisfactory results in the treatment of acute as well as diverse chronic conditions.

Reviewing the results obtained, I have fixed upon the following formula as being the most generally satisfactory:

Pneumococcus	20 millions
Tetragenus	40 millions
Micrococcus catarrhalis	40 millions
Staphylococcus	400 millions
Pyocyaneus	100 millions

The favorable action of the stock vaccines was notably increased the moment I added the pyocyaneus bacillus, and the favorable action in various cases was so immediate and continued that I arrested my experiments and have adopted the combination above set forth.

My employment of the stock vaccines, as above, has been attended by almost universally favorable results in the treatment of asthma, emphysema and catarrhal troubles. I recall only one case completely resistant to the treatment, a case of emphysema having a history of six years' duration which I completely relieved after three months of treatment by the injections of the entero-antigens.

This vaccine has been productive of surprisingly good results in the treatment of old delayed chronic cases in military subjects who have been gassed (we see probably many more of these cases in Europe than are seen in America), presenting forms of bronchitis through the whole range, from the simplest to those of the gravest character.

In my treatment of these cases, my success had been very indifferent until I developed the stock vaccine formula herein set forth. Since I commenced its employment on these cases I should say it has resulted in about 50-percent success.

I give the three following observations as examples of the best results I have obtained:

Case Reports

Case 1.—On the 9th of October, 1922, a young man, 28 years of age, came to me requesting a treatment with the same vaccine which he said had produced such a good result for a friend of his.

He had been gassed by yprite (mustard gas) in 1917. He has never since been free from pulmonary oppression, constantly attended by a troublesome cough. His expectoration averages 400 Gm. in the 24 hours and is of a purulent character. He has tried every remedy that has been recommended without any amelioration. He followed a treatment prescribed in an inhalatorium, which seemed to aggravate his trouble to the extent that he was unable to resume his ordinary occupations, although these were not particularly fatiguing. He was often compelled to prop himself up in a sitting position in bed in order to sleep. He has had no fever, no night sweats and he has not lost in weight.

Upon examination the thorax seemed to be enlarged. Upon auscultation bronchial rales were disseminated over the whole of the chest. At the base of the lungs and chiefly to the left, there were subcrepitant rales. Dyspnea is always present and aggravated by the slightest effort. The heart and other organs appeared to be normal. The radioscopic examination showed enlarged ganglions surrounded by dark areas around the bronchial branches. Microscopical examination of the sputum, stained after the method of Ziehl, showed numerous epithelial buccopharyngeal cells; few polynuclear leucocytes; also a few epithelial cells of bronchial origin. No cells from the lungs and no spirilla. Of microbial flora there were a few staphylococci, numerous pneumococci; rare tetragenus; and no bacilli of Koch.

I gave this patient a dozen injections of stock vaccine, one injection every two days. After the fifth injection I waited five days before recommencing.

Following the third injection, the patient began to feel an improvement. At the end of the series the pulmonary oppression had almost wholly disappeared and, although there remained a slight hacking cough, it was not constant and the patient had ceased to expectorate.

In the spring of 1923, following a severe cold, the patient returned, fearful of a renewal of his former trouble. He was subjected to a second series of injections since which time he has given no evidence of his bronchial trouble.

Case 2.—B. D., age 28, employed as a gardener, where he came in contact with many varieties of flowers, came to consult me, May 22, 1923.

He was gassed in 1918; was confined to the hospital for four weeks and has been afflicted with a cough, accompanied by a considerable expectoration since that date. He says he has lost some weight. He has never noticed any blood in his expectoration. He has no access of fever and does not suffer from night sweats.

Auscultation disclosed a dull area at the apex of the left lung; disseminated dry rales over the whole of the chest. The expectoration is rather thick, viscid and mucous. Microscopical examination after staining by the method of Ziehl showed the following: A few polynuclear leucocytes; numerous epithelial cells of buccopharyngeal origin; a few cells of pulmonary origin; no spirilla; microbial flora, numerous staphy-

lococci; a few streptococci; numerous pneumococci; and a few tetragenus; no bacilli of Koch.

The patient was advised to take a few days repose and I commenced to give him injections of stock vaccines, one injection every two days. After the fifth injection there was an interval of three days before recommencing it.

At the end of ten injections all of the objective and subjective signs had disappeared. This patient has remained without any return of his symptoms up to the present time.

Case 3.—D. W. A well-built man, who had always enjoyed perfect health up to 1917, when he was seriously gassed by yprite. He passed several months in the hospital and came out a veritable *pulmonaire*. He coughs almost constantly and has an abundant expectoration, marked, in the morning, by thick, heavy masses, yellow and green, but without signs of blood. Every few months there is an exacerbation of subacute bronchitis, accompanied by a slight elevation of temperature; yet, his general condition was not affected; he has not lost weight, but he is wholly incapable of any prolonged effort and has to content himself with the direction of a small business which he owns, with but little participation in the handling of the goods.

I immediately remarked, when he first came to visit me, a notable condition of dyspnea and his face presented a congested appearance. Upon auscultation, I found a tempest of rough sounds, with sibilant and subcrepitant rales from top to bottom of the lung. His voice was hoarse and roughened, but he stated that he was still suffering from a recent laryngitis. I found no enlargement or abnormality of the heart, or any of the abdominal organs.

The radioscopic examination disclosed some enlarged ganglions in each apex; the base of each lung, and chiefly to the left, was slightly cloudy, the rest of the lungs was clear.

I discovered that his urine contained 1.7 Gm. of glucose per litre. There was no albumin. In answer to my questions, he disclosed that his daily regime comprised a large quantity of sugar.

The examination of his sputum after staining by the method of Ziehl showed the following:

Aspect purulent.

A great number of polynuclear leucocytes.

A few epithelial cells of bronchial origin.

Absence of epithelial cells from the lung substance.

No spirilla.

Microbian flora; numerous staphylococci; pneumococci; rare tetragenus; no streptococci; no micrococcus catarrhalis; no bacilli of Koch. The examination for the bacilli of Koch after hemogeneisation was negative.

I put the patient upon a regime devoid of sugar during a period of six weeks. Every Saturday he was subjected to a saline purgative and three soda baths per week. He was given 1 Gm. of ichthyol per day and during this period complete rest was enjoined.

At the end of six weeks, the sugar had completely disappeared from the urine, but there was no modification in the condition of the lungs. The dyspnea persisted and auscultation disclosed the same signs. While continuing the same treatment I commenced the injections of my stock vaccines, one injection every second day, with an interval of five days after the fifth injection.

On the 18th of December this patient presented himself at my office, a changed man. His dyspnea had disappeared; the cyanosis of the face was gone, leaving a natural color. The cough was infrequent and shallow, with only slight expectoration. Auscultation disclosed only a few sibilant rales. I advised him to submit to another series of injections in the month of January. In March, 1924, I learned from one of the neighbors of this patient that he rode a bicycle daily, had resumed smoking and showed no evidence of ever having had any trouble.

I will say, in addition, that not one of these patients was given any other medications than the vaccines. I have in my records three other similar cases which have shown practically identical results following this treatment. They all showed grave bronchial catarrh, the result of gas intoxication. They all presented an abundant purulent expectoration; in one case equalling 400 Gm. in the 24 hours.

Their trouble had shown itself rebellious to all of the forms of antibronchial therapeutics that were employed. In each of these subjects a cure or marked amelioration of their condition followed a single series of ten injections of the stock vaccine I have mentioned.

I do not attempt to enter into an analysis of the mode of action of vaccinotherapy in

these cases. In point of fact we know very little of its mode of action. The clinical results after the employment of various combinations have demonstrated to my com-

plete satisfaction that the combination I now employ gives the best results and that they are fairly satisfactory.

54 Bd Victor Hugo, Nice.

Protoplasmic Resurrection

By W. V. GAGE, M.D., Worland, Wyoming

FOR a non-church-going layman to submit for publication the result of a series of observations which seem to prove the fact of resurrection seems more than presumptuous, especially when the layman realizes full well the fate of the great majority of all previous propounders of new ideas.

The study of physiological chemistry soon develops one outstanding fact, in the mind of the student, i.e., that all the living tissues of the economy rely for their maintenance, continuance and physiological perfection directly, or indirectly, upon the digestive tract.

In order that any cell of the body shall be alive, whether this living cell be of muscle, blood-vessel, brain or any other tissue, it must be constantly and continuously rejuvenated and rebuilt, by having brought to it, in adaptable form, the "building-stone" products of the digestion, metabolism and chemical cleavage of the carbohydrates, fats and proteins.

Regardless as to whether or no the rearrangement of the atoms of the food molecule be due to putrefaction, bacterial action, oxidation, reduction, enzymes or any or all of the metabolic processes which have to do with digestion, absorption and assimilation, the following fact stands out startlingly: somewhere, during the complex process which produces the phenomena of digestion, absorption and cell supply, the non-living molecule of the cell-building food comes in contact and becomes associated with a new element; there has entered into the equation a factor which all must acknowledge as being of astounding moment. Somewhere, during the process of building cells from food, the *psychic* element has entered the protoplasmic combination, and the resultant cell is alive. The dead building-stones which once were a part of some living organism—plant or animal—have been *resurrected*. They have been made to *live* again.

Take, as a simple illustration, the regeneration of the protein molecule, which fol-

lows the ingestion of, say, a piece of beef. Let the protein intake be represented by a mouthful of steak, cut from the body of a "cold storage beef", killed one year ago. It is unnecessary, as well as impossible, for me to follow the various phases of tissue metabolism, which allow this dead protein to be so metamorphosed that it becomes part and parcel of a living cell.

We know, roughly, as to the conversion of the protein into amino-acid and its re-conversion into modified protein, which serves as a source of energy and cell-building material; even to the point where various carbohydrates are evolved from protein. Provided the protein molecule does not become a component part of some excreted substance, it must of necessity be used in the eventual building of a cell that lives. It has been resurrected. But, in this resurrection, a profound change has taken place. When this piece of beef was formerly alive, it was instinct with *bovine* life, but now the life which animates its particles is that of a *human being*.

If we go back a step further, the ox fed upon living grass or grain which, in the process of that act, died as to vegetable life and, later, became imbued with the life of the animal.

If the above premise is correct, the promised future resurrection of Holy Writ seems nearer to us and more comprehensible; and the other end of the equation, i.e., the proof of the departure of the psychic element from the cell, during the process we call death, can almost be proved, or at least as nearly so as many items which we now accept as proved.

The body we call dead was yesterday instinct with life. It contained an individual, whom we recognized as our friend. Today every *physical* thing that was there yesterday still remains—the eyes, the lips, the brain—but our friend is gone.

When death takes place, there is no immediate cell change which can be demonstrated, either microscopically, chemically or physiologically, for we can graft

into the living body, a piece of tissue from the body of one suddenly dead, and this tissue fragment will live. It would have degenerated and decomposed, had it been allowed to remain within its original environment, but it lives and takes on normal physiological function, after having been brought in contact with the psychic element of the living body.

The degeneration of the cell, after death, seems to be an autolysis, the breaking down being not directly or wholly dependent upon outside forces. In death, the thing which we can not analyze, the thing which has previously determined that the protoplasm of the cell be alive, is lost, and the evidence of our senses proves to us that this is a fact.

Today, a school of investigators in physiology, chemistry and dynamics have nearly established the hypothesis that *all function has vibration as its basic element.*

The writer believes this and wishes to show, as a conclusion to this article, that mechanical vibration, as a basis for all things, need in no way interfere with the hypothesis developed in the foregoing pages in reference to the psychic force animating the protoplasm.

In the *New York Medical Journal*, for October 4, 1922, Dr. Frank Thomas Woodbury, Lieut. Col., Med. Corps, U. S. Army, published an article entitled, "The Tungsten Incandescent Electric Lamp, Used as a Therapeutic Agent", and I take the liberty of quoting from Doctor Woodbury's article.

He says: "The energy of the entire universe is, in its last analysis, and has for its primary manifestation, vibration.

"The source of this vibration is theoretically explained as the motion of electrons, atoms and molecules. These motions are of two types or orders; orbital or tangential, in direction, and produce varying spherical vibrations or waves in the ether expanding from the point of energy emission as a center. These vibrations are either directly distinguishable by our organs of sense or indirectly detectable by special instruments. The following is a table of vibrations whose existence is manifested by work done or has been mathematically deduced:

Mechanical vibration		No. of vibrations a second	
1st Octave	.....	2	
2nd "	.....	4	
3rd "	.....	8	
	Sound		
4th Octave	.....	16	
5th "	.....	32	

6th "	.....	64	
7th "	.....	128	
8th "	.....	256	
9th "	.....	512	
10th "	.....	1,024	
15th "	.....	32,768	
	Unknown		
20th Octave	.....	1,047,576	
	Electricity		
25th Octave	.....	33,554,432	
30th "	.....	1,073,741,824	
35th "	.....	34,359,738,368	
	Unknown		
40th Octave	.....	1,099,511,627,776	
	Heat		
45th Octave	.....	35,184,372,008,832	
46th "	.....	70,368,744,177,664	
47th "	.....	140,737,468,355,328	
	Unknown		
48th Octave	.....	281,474,976,710,656	
	Light—Chemical Rays		
49th Octave	.....	562,949,953,421,312	
50th "	.....	1,125,899,906,842,624	
	Unknown		
51st Octave	.....	2,251,799,813,685,248	
57th "	.....	144,115,118,075,855,872	
	X-Rays		
58th Octave	.....	288,230,376,151,711,744	
59th "	.....	576,460,752,303,423,488	
60th "	.....	1,152,921,504,606,846,976	
61st "	.....	2,305,843,009,213,693,952	
	Unknown		
62nd Octave (and beyond)	.....	4,611,686,018,427,387,904"	

You will note in the above table that there are five spaces showing vibrations having properties unknown to present methods of analysis, but no more unknown than were, for instance, the x-ray octaves, a few years ago. Instruments of precision will, no doubt, ultimately isolate, classify and harness these unknown octaves and give to mankind forces of untold and incalculable power.

Inasmuch as vibration seems to be the basis of all function, why should we not be allowed to formulate the hypothesis that, "Somewhere within the scale of octaves, which spell physiological, chemical and dynamic activity, will be found the vibration which represents life, which is life, and without which life can not exist."

In reference to vibration as the element back of all function, and as the basis of all life, I would like to call attention to the fact that what we call tone or sound, in a bell, may be obtunded or even caused to cease entirely by so placing a very small object, with care as to position, upon the rim of the bell, that it will interfere partially or totally with vibration, and consequent sound production.

In an exactly analogous manner, a blow from a comparatively insignificant object, properly placed in certain regions of the cranium, can so interfere with the vibration called life, by compelling discoordination, or complete muting, as to establish the state we call unconsciousness, or death; while a blow of equal intensity, over various other portions of the anatomy, might cause only pain, contusion or discomfort.

The Life Ray of Modern Science

By G. J. WARNSHUIS, M.D., Forman, North Dakota

IN THE past few months we have seen a measurable degree of interest displayed by newspapers in the reports of a new "death ray" that would exceed all other methods of warfare in its destructive power. It would appear that a simpler means of utilizing our knowledge of radiant energy would be to perfect a method by which the atmosphere could be made impervious to the *life rays* coming from the sun. We may safely predict that no people can be insulated for any great length of time from such light rays without serious impairment of their health and, if such insulation could be made complete, by the withdrawal of foods, in which the energy of the sunlight had been stored, their destruction would only be a matter of a few weeks or days.

This is a fact of which the general public is almost entirely unaware and, indeed, is only recognized by a very few, who have had their attention called to the studies of medical scientists at the universities of Columbia, Harvard and Wisconsin, as well as the observations of investigators in Denmark and France, on the reaction of laboratory animals to artificial light and natural sunlight. When we combine this information with what has been learned regarding the relation of sunlight to disease in mankind, it is evident that sunlight is just as indispensable to our well-being as food, air and water.

Deficiency Diseases

It is generally recognized today in medical circles that there are four diseases that may be definitely classed as deficiency diseases. These are, rickets, scurvy, pellagra, and beriberi. Because of the abundance of fresh food, these diseases seldom occur among adults in civilized countries, although our more precise knowledge of the cause of pellagra is due largely to the studies of Goldberger and Wheeler during an outbreak in our own country. Scurvy and rickets, especially the latter, are seen in a very great proportion of infants, mostly among those that are bottle fed. The symptoms, as a rule, are so mild that they are seldom recognized and may not be important except as an indication that the baby's resistance to current infections is not as great as it could be and that it is more likely to develop colds, adenoids, tuberculous glands, indigestion, etc.

These diseases are called deficiency diseases because it can be demonstrated that the symptoms result from the lack of certain substances in the blood known as vitamins. The exact composition of vitamins is not known. We do know that butter, cod-liver oil, tomato juice, orange juice, and practically every other *fresh* green vegetable or animal food, when added to the diet of people suffering from these diseases, will cause the symptoms to disappear. Artificial products of these foods, such as cane sugar, white flour, potato and corn starch, do not contain these vitamins.

Vitamines and Sunlight

There is a direct relation between the production of vitamins and sunlight. In fact, even though changes in the diet may not suffice to cure a child of rickets, the disease is rapidly overcome when the child is exposed to sunlight and fresh air or to the ultraviolet rays of the mercury quartz lamp. Most astonishing of all, it is now established that sunlight or artificial sunlight has more direct effect on rickets than changes in the diet.

In a paper published in the *Revue de Medicine*, Paris, Woringer states that absence of sunlight has more to do with the cause of the disease than food and also points out the beneficial effect that light treatments have on the accompanying infections that so many of these babies have. He is convinced that every child between the ages of 3 and 18 months should have these treatments regularly as a preventive of rickets and to maintain them in robust health. To him sunlight is of as much importance as good milk. Many public health centers, as for example the Judson Health Center and the Bellvue Hospital of New York City, are so thoroughly convinced of the value of plentiful light to the growing body that they have installed mercury quartz lamps for the benefit of poor babies.

An editorial in a recent number of the *Journal of the American Medical Association* calls attention to the new light shed on the subject of metabolism by the work of Steenbock of the University of Wisconsin and Hess of Columbia. Without either one being aware of what the other was doing, they both published a report of their investigations on the effect of light on food

fed to rats. Rats were fed on a diet that produced symptoms of rickets and poor growth. When the fats in their food were exposed to ultraviolet rays of a quartz lamp, their condition improved rapidly and they grew much faster than those which received the unexposed food. Even cod-liver oil, which in itself is known to be beneficial in these diseases, becomes a great deal more effective after it has been exposed to these rays.

Dr. Emmet Holt is authority for the statement that the milk of cows on winter feed was more likely to produce rickets than of those in summer pasture.

Heliotherapy in Tuberculosis

While the direct relationship of light to tuberculosis has not been so clearly demonstrated, it is, nevertheless, an established verity that a great deal of benefit may be obtained by exposing persons with tuberculosis to sunlight or the mercury quartz lamp radiations. In the little village of Leysin, Switzerland, 5000 feet high in the Alps, there are 32 clinics under the direct control of Dr. Rollier who first began the use of the bright sunlight of this altitude in the treatment of the white plague.

One of the more aggravated cases to be seen at this resort is that of a young man who came there several years ago with forty-one open sores from tuberculous bone disease. At the end of a year and a half, all the sores were healed and he was able to chop wood and do a great deal of manual work.

Rollier claims that, in his 300 cases of tuberculous peritonitis, he has never had to resort to operation. Few localities enjoy the intense and regular sunlight of the Alps and it is seldom convenient or even possible for most sufferers from tuberculosis to give up their homes and occupations to repair to such resorts. To provide the benefits of this treatment to such, many sanatoriums are now equipped with mercury quartz lamps which produce a light rich in ultraviolet rays. The ultraviolet light given off by this lamp is of such intensity that a few minutes' exposure would produce a sunburn similar to that acquired after several hours' exposure to sunlight. The reports from some of these institutions are quite conclusive as to the benefit from treatment with light.

Of 133 cases at the Silkeborg Sanatorium, Copenhagen, that failed to improve under

regular treatment, 80 recovered after the light radiations were used.

Edgar Mayer, of the Saranac Lake Sanatorium, New York, states that he has recorded 8 cases of hilum or bronchial tuberculosis that were growing worse before mercury quartz light was used, and that became well after this treatment was begun. In his experiments on rabbits he has repeatedly healed a tuberculous ulceration of the eye by means of the light radiations. He reports 88 cases of intestinal tuberculosis in which he is convinced the light treatments accounted for their rapid improvement.

From the Manitoba Sanatorium at Ninette, Manitoba, comes a report on the use of artificial sunlight in the treatment of intestinal tuberculosis. Seventy-seven cases that were sufficiently advanced to show positive x-ray findings were treated. Forty of these, that had only moderately advanced diseases of the lungs as well, recovered permanently. Of the remaining thirty-seven, seventeen had gross pulmonary disease. One of these improved temporarily, two more permanently. Altogether two-thirds of the seventy-seven have shown improvement.

It is worth while to call attention to a point in this paper by Stewart in regard to diagnosis. He insists that while, for the sake of comparison, they selected only those cases with well-defined x-ray signs, one should not wait for such evidence before making a positive diagnosis. Any impairment of the appetite in one with pulmonary disease is suggestive. Another point to bear in mind is the fact that mental depression is common with intestinal disease but seldom seen in pulmonary forms. It is safe to say that many cases of chronic digestive disturbances and undernutrition are unrecognized tuberculous infections. According to Opie, twenty-five percent of autopsies on British soldiers showed healed tuberculous ulcers. Such a high percentage in a class ordinarily considered robust makes one wonder if too much attention has been paid to the symptoms of surgical disorders, such as peptic ulcer, cholelithiasis, etc., to the overlooking of these more subtle infections.

Concerning the use of light in the treatment of bone tuberculosis, Dr. Koven of New York stated, at the last convention of the American Medical Association, that "the use of the ultraviolet ray will prove to be one of the greatest helps in the prevention of bony deformities."

Other Uses of Heliotherapy

Statistics show that 40 percent of all skin diseases have received permanent benefit from ultraviolet ray treatment, and reports are not lacking from many sources, testifying to the improvement obtained in rheumatism, sciatica, senile gangrene, neurasthenia, ulcer of the stomach, whooping cough, and many other conditions in which lowered vitality and lowered resistance to infection are the cause of the patients' complaints.

Dr. Howard Plank states that a hyperacidity of the gastric contents can be changed to a hypoacidity after 30 minutes' ultraviolet radiation and he is of the opinion that the rapid improvement obtained in gastric ulcer is due to this effect. Dr. A. I. Arnesen, of Minneapolis, has obtained results in these ulcer cases that certainly justify considerable enthusiasm. In my own experience it has been, invariably, a matter of satisfaction to observe how immediately the relief from digestive disorders is felt.

Case Reports

During the past six months, I have treated 98 patients with ultraviolet radiations. These cases represent practically all of the conditions above referred to. Some of them I have had an opportunity of observing for two or three months and even longer since treatments were discontinued, and it is gratifying to note that the improvement not only is of a lasting nature but often increases for some time after; and the secondary and more outward effects of an improved metabolism become more noticeable as time goes on.

Six of these patients were positively tuberculous, three having been febrile before treatment began, and one had been operated upon on two occasions for tuberculosis of the shaft of the left tibia. This patient made a most brilliant recovery.

When treatments were begun on July 4, the pain was so intense that he could not sleep. The pain was greatly relieved after the first treatment and he was not obliged to be absent from his work at any time during the treatment, though he was employed at the heaviest kind of labor on a construction job. Ten days after treatment began, definite signs of suppuration developed and the swelling in the calf of the leg was incised. After this, general and local treatment was given daily and, on August 4, the symptoms had so completely disappeared that he discontinued treatment.

December 31, he still remains well and reports that he has never felt so well in his life and the old scar contractions in his leg have completely relaxed.

There were fourteen cases of the type generally dismissed as neurotics. The common symptoms in these cases were headaches, indigestion, easy fatigability, and insomnia. In all but one, the symptoms covered a period of years, with occasional remissions and variations in severity. In every instance the insomnia has been relieved after the first exposure.

The effect of the rays on the sympathetic nervous system appears to be very positive and decisive, and is manifested in several ways. After a few minutes general radiation, there is a deepening of the respiration, a slowing of the pulse, the skin and extremities become warm, and the patient speaks of feeling rested and refreshed, frequently becoming drowsy. Often in cases of high blood pressure there is a marked decrease which may be permanent after several radiations. One woman, aged 73, had a blood pressure of 230 to 240. Blood pressure taken directly after the second treatment was 166. This rather surprised me because I took the reading only at the request of the patient. She expressed herself as feeling so much better that she was curious to know if her pressure had gone down. It went up again, but not to its former height, and she has remained free from any discomfort during the five months following her last treatment. Blood pressure taken a few days ago was 170. Another case of hypertension in a woman 63 years old had an initial blood pressure of 240. The blood pressure, one month after treatment was begun, was down to 180 and has remained so for two months. There was not as much symptomatic improvement in this case as the other, but the uremic symptoms were more apparent at the beginning of treatment than in the other case.

The results in a large number of rheumatic cases have been uniformly good. The quick relief sometimes obtained in the pain caused by neuritis is surprising; and lumbago also responds very rapidly to the analgesic effect of the light.

General Discussion

Besides the beneficial effect obtained in the deficiency diseases and in these systemic infections, there are several observable phenomena in nature that confirm our opinion that these rays produce a decided effect on metabolism and are a most useful

modality in restoring tone to debilitated organs.

It is a matter of common knowledge that the death rate and morbidity rate increase with the advance of spring, and then decline after the flowers bloom. Ehrstrum has shown in an analysis of 3039 cases of neuroses of different kinds that there is a seasonal incidence of these disorders identical to the suicide curve of 4571 cases between the years 1851 and 1907. The greatest number of suicides and neuroses in these series occur during the late spring and early summer. He attributes this seasonal variation to the lack of green vegetables in the winter diet.

Professor Dorno, of Germany, states that the ultraviolet radiation of the sun on January 15 at noon is only one-tenth and, in the early morning, one-twentieth of the heat radiation. (The heat radiation is not intolerable during January in North Dakota.) The heat radiation and the ultraviolet radiation are the same on July 15. "In the spring the sunlight is rich in an infra-red ray which is deeply penetrating and highly fatiguing."

"Animal experiments show that the ultraviolet rays from a mercury vapor lamp, when employed systematically and continuously, produce lesions, especially hemorrhagic infarcts, in the spleen, liver, and lungs which cause the death of the animal."

"In the superficial capillaries of the skin, the plasma of the blood has its oxygen increased, the number of red cells is also augmented, and their content of hemoglobin becomes richer. The urea of the blood is diminished. The blood stream, thus con-

stantly renewed, conveys these transformed, revitalized elements to the deeper organs."

At Harvard University, chicks were confined in a glass greenhouse. Part of them received fifteen minutes daily radiation from a mercury quartz lamp. Those that received the radiations grew twice as fast as the others. Not only was there a marked difference in their rate of growth but those that were deprived of ultraviolet light showed poor bony development and 70 per cent of them died.

A new era is now dawning in medical art. We are slowly coming to learn that all the forces for good health and the elimination of disease lie in the tissues and secretions of the body itself. It remains for us only to learn to apply those conditions of food, water, air, light, and mental and physical stimuli which are best suited to each individual.

To obtain uniform success, however, involves not only a thorough understanding of physiology, anatomy, the nervous system and the ductless glands; a practical working knowledge of psychology, ethnic types, vicious cycles, and dietetics; but a broad experience and an understanding of symptomatology, by which one can gauge the functional capacity of the vital organs of each individual who seeks his advice. When we follow this rule and combine with it a discriminate application of drugs of known potency, sera and vaccines, in infections that are inaccessible to the surgeon, and finally resorting to surgery in extreme cases of deformity, malformation and suppuration, medicine will no longer be looked upon as a salvaging art but as a constructive and safe-guarding force.



Cardiac or Respiratory Stimulation in Collapse

The New Method of Stimulation of the Respiratory Center by Alpha-lobeline

By KURT PETERS, M.D., Woodside, New York

THE doctor at the deathbed follows the pulse of the patient with one hand and holds ready the camphor syringe with the other. It means a struggle against a tradition of centuries not to view the "last heart beat" as the cause of death, and not to choose the heart and circulation as the point of attack for attempts at resuscitation.

And yet, in collapse, the primary condition is often the failing respiration and the resulting venosity of the blood, of which stopping of the heart is only the consequence. If an improvement in respiration succeeds in such cases, the recovery of the heart follows automatically through the improved blood nourishment. Modern biochemistry shows that, in providing the body with heat material, the respiratory organs function as a gas factory and the circulatory organs as a pipe system. Can a disturbance in the gas factory be remedied by dealing with the pipe system?

Why is the "last breath" so seldom recognized as the cause of the "last heart beat"? This is due in part to the fact that the pulse is easier to observe than the respiratory movements and thus, until now, the attention of the physician has been drawn more to the circulation. On the other hand, a simple means of treating respiratory failure has been wanting.

The disparity between the meager results of artificial respiration and the amount of work entailed by it is startling. In addition, it is a purely indirect action on the periphery of the disturbance. Oxygen-carbondioxide apparatus is seldom at hand in accidents and, in apnea, requires also the aid of artificial respiration. Strychnine and hydrocyanic acid as respiratory stimulants appear too dangerous in collapse. Caffeine and atropine have secondary actions which made their use inadvisable or even contraindicated. Since it was impossible to get at the primary respiratory collapse, the secondary heart stoppage was treated. The worst of the matter was, however, that this habit led to a false interpretation of the causes of collapse and veiled the need for

a specific causal therapy for the respiratory center.

The different forms of collapse, usually termed shock, are different grades of depression of the respiratory center. The cause may be psychological disturbances—for instance, fainting from fright; physical—for example electric shock; hemorrhage; anemia; or finally, chemical disturbances. Among the latter, poisoning by exogenous substances is frequent, as by narcotics, morphine or carbon monoxide. Respiratory paralysis due to endogenous metabolic poisons may appear in any disease. Drowning, surgical shock and asphyxia neonatorum are well-known forms of this group.

In all these differently named forms of respiratory depression, the specific therapy of direct stimulation of the respiratory center has finally been made possible. On this new basis, resuscitation may count on increased success.

The most important respiratory stimulants at present are carbon dioxide and the crystalline alkaloid alpha-lobeline.

Carbon dioxide is the physiological stimulus of the respiratory center. Henderson introduced it into therapy as a 5-percent admixture with oxygen in his inhalator.

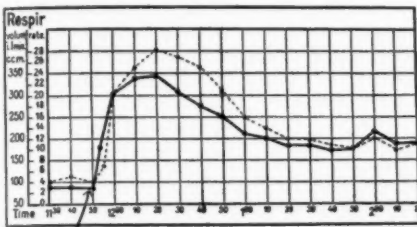
In his pharmacological investigations on the respiratory center, Wieland found the alkaloids of lobelia inflata to be especially potent stimulants. He succeeded in isolating the crystalline alpha-lobeline from its other alkaloids. This pure and stable preparation is a specific stimulant to the respiratory center. It has no influence worth mentioning on the rest of the organism, particularly not causing nausea or vomiting like the previously known amorphous lobelia alkaloids.

Injections of alpha-lobeline act with varying degrees of rapidity. Instantaneous results are obtained by intravenous injections while intramuscular injections act less promptly and with subcutaneous application the results are still further delayed.

By the insertion of a gas meter in the path of inhalation, it was shown that not only the frequency but also the volume of

respiration was increased in the time unit. An indication of improved aeration of the organism is obtained only by noting the amount of air inhaled, and not by the number of respiratory movements. The latter serves as an indication only when considered in connection with the amount of inspired air.

The values given by kymographic drawings for a rabbit were worked into a curve. This curve shows the typical effect of alpha-lobeline as it is determined in numerous confirmatory clinical reports. Therefore, it is reproduced here.



Alpha-Lobelin
0.0069

Respir. volume —
Respir. rate

Respiratory Volume Increased 459 Percent by Alpha-lobeline

A rabbit weighing 2600 Grams was anesthetized with 1.5 Grams urethane to each kilogram of body weight. At 11:09, 40 mg. morphine was given by intravenous injection. At 11:52, 6 mg. alpha-lobeline was injected subcutaneously. The respiration volume rose in the first ten minutes after the injection from 74 Cc. to 300 Cc. and reached by slow continued rise a maximum of 340 Cc. after 30 minutes. From this point it slowly fell again. One and one-half hours after the injection, the effect of the lobeline seemed to be at an end. The respiratory volume was then 130 Cc. as against 74 Cc. in the beginning and remained, throughout the whole further course of events, at about this level, considerably above the initial volume.

To prolong the stimulation of the respiratory center, it is necessary to preserve a small constant concentration of alpha-lobeline in the blood. For this purpose, in-

travenous injections should be used only in cases where instantaneous effect is demanded or where, in consequence of weakness of circulation, a faulty absorption of the remedy is to be feared. Incorporation by intravenous prolonged infusion is to be considered in suitable cases. A dose of 1/6 grain for adults and 1/20 grain for children has proved satisfactory. Repetitions at intervals of 15 to 20 minutes are unobjectionable.

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Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M.D.

Preachment No. 1 (Continued).

Equipment. No workman can do good work without tools. While individual skill is the thing that counts, even a master can not cut without a knife or suture without a needle and thread.

In a large city, or even in a small town possessing hospital facilities, the question of equipment is a secondary one, since for extreme emergencies a small kit will usually prove sufficient.

But, the surgeon who is entirely thrown on his own resources, who has to do almost all operative work in private dwellings, must be *prepared*, materially as well as mentally, and his office or workshop becomes his headquarters from which he must draw whatever is needed.

It may seem a bit out of place to enter into a discussion of "externals" which every one should, and probably can, solve in some fashion, but we have among our readers a large number of recent graduates who will appreciate the advice of a man who has been "through the mill" over thirty years and who knows something of the psychology of a mixed American clientele.

My first suggestion is to bear in mind the *work* you are going to do and not how things will impress patients or prospective patients. By this, I do not mean that the waiting room should be bleak and bare and the examining and consultation rooms equipped for anesthesia and laparotomies. Both would represent extremes which are carefully to be avoided.

The waiting room should be cheerful, neat and in good taste. Luxurious furnishings are not in evidence in the offices of men who rank very high in our profession and who have enormous incomes. The minutes spent in the waiting room should be suggestive of "solidity". Personally, I should avoid hanging on the wall diplomas, certificates of memberships and certain paintings or pictures of medical activities.

The consultation room, if you can afford a separate one—should be equipped for business. A desk, chairs, a filing cabinet, bookcase, preferably in mahogany finish—oak furniture suggests a real-estate agent or

coal dealer—is all that is needed. In this room, you may display neatly-framed diplomas, licenses, military commissions, society certificates, photographs of prominent colleagues etc. I have heard at least one able physician ridiculed for displaying a certificate of membership in a fraternal order. Display only what you have earned as a physician or surgeon and not what your patients can possess, or acquire, by mere popularity and payment of dues.

The examining room should have as little equipment on display as possible. An examining table, an instrument cabinet, a sterilizer and such appliances as are needed for work, are essential; but these, too, should be of a construction or color effect which will not frighten your patients. Some people may like to see scalpels, forceps, scissors and what not, but the nervous woman, the frightened child and the worried man will not be cheered by such a display. Instruments are best hidden in drawers and taken out only when needed.

There is one thing the country surgeon must have and that is a small laboratory. Even in Chicago, which boasts of a large number of laboratories in the business district where many physicians have office hours, many surgeons maintain small laboratories of their own.

In my office, we are prepared to make exhaustive urinary analyses, all analyses of the stomach contents, differential blood counts, estimation of hemoglobin, pus and sputum examinations. X-ray work, tissue examination and serologic tests are sent elsewhere, because we find it more economical. Were I, however, to practice away from the facilities alluded to, I would equip myself with a good x-ray outfit for ordinary work and certainly make my own tissue sections and Wassermann tests. Why? Because these adjuncts to clinical diagnosis are indispensable and one should do either good and scientific surgery or none at all.

Asepsis. I maintain that nine out of ten surgeons accustomed to work in hospitals, who perform all operations in a most satisfactory manner from the standpoint of asepsis, could not perform a simple hernior-

rhapsy in a private house, without committing some error in aseptic technic. I see many readers smile. Very well. I'll put you to the test. Elsewhere in this department, I propose as an exercise a very simple situation. Visualize it and play the role of the surgeon. Write down, as is stated in the requirements, step by step, what you will do from the time you enter the patient's house until you make the first incision. Send this to me, giving me your real name and any pseudonym you choose. I will publish your statement without betraying your identity.

(To be continued.)

Surgical Problem No. 3

Closing Discussion by Dr. Isaac E. Crack,
Hamilton, Ont.

(See May issue, pp. 315 and 316.)

After examining this man's chest very carefully with absolutely negative result, and as we had no disturbance of temperature or pulse until after the event of his abdominal symptoms, I decided that the condition was surgical, probably a recurring appendicitis. As I am not a surgeon, Dr. Frank Woodhall was called in and he agreed with me that an operation was indicated.

We operated at 5. p.m., the same day, and found the urinary bladder anchored in the hernia and the pelvis a mass of adhesions. Posterior to the cecum was a mass firmly bound down, and in attempting to free it, the mass ruptured and about half an ounce of pus escaped. In the abscess cavity we found a large, gangrenous appendix—the same appendix which had NOT “drained away”.

As the incision had been made through the old scar in order to free and repair the hernia, the surgeon made a stab wound over McBurney's point for drainage and closed the median incision.

The patient made an uneventful recovery and is also cured of his hernia.

Surgical Problems 5 and 6.

So few solutions, or rather discussions, of these highly interesting problems, which were published in the April issue, have come to me that I extend the time for another month, that is to say, for about ten days after this issue reaches the readers.

I, again, appeal to our readers to show a more active interest in the Seminar. If you desire to see this department develop into something of real practical value to all regular contributors, a half hundred of them

are absolutely needed, otherwise I may as well use my time in another manner.

Surgical Exercise No. 1

You are called to the phone by Dr. Helpless who says: “Doctor, come at once ready to operate under local anesthesia on a patient whose large right inguinal hernia became incarcerated two hours ago and hot applications and taxis have proved useless. Please come at once. The man lives on a farm, two miles west of my village. I'll wait for you there.”

You take your kit (instruments, gowns, gloves, suturing material, antiseptics, anesthetic, dressings) and make the trip in your auto.

The farm house is small but well furnished. The patient has only an old, deaf wife and a young hired-man with him.

Dr. Helpless is a general practitioner who knows little about aseptis.

There are a stove, pots and kettles for sterilizing instruments, etc., and basins for hand solutions available in the house, in addition to your kit. You select the kitchen as the operating room and two kitchen tables to serve as an operating table. There is, of course, household linen which had not been touched since it was laundered, except to be placed in drawers and chests.

Requirement: Describe in detail, step by step, your preparations up to the moment when you make the infiltration preparatory to beginning the operation proper.

Surgical Problem No. 7

Presented by Dr. Frank Wm. Porterfield,
Division Surgeon, Illinois Central R. R.,
Waterloo, Iowa.

[I believe the following case to be presented not only in a very able manner but almost exhaustively, so that little doubt as to the correct diagnosis is left. Dr. Porterfield has sent us a detailed autopsy report, so that we shall be in a position to comment on the discussions with exactness. I urge all thinking readers to send in their opinions. We are very much indebted to Dr. Porterfield.—Ed].

N. N., married; age 43. His father and mother are living and, so far as known, in good health. The family history is vague and unsatisfactory.

About three months previous to the beginning of the present trouble, he had a mild attack of influenza, which I did not see, but his description suggested a concurrent sinus infection.

Ten days before I saw him, a headache began with its point of greatest intensity in the middle of the vertex in the median line, just back of the line of the frontal suture. The pain was intermittent at first and so mild that he did not apply for any treatment. In a few days, however, it increased so much that he came to the clinic.

On examination, a well-nourished, adult male was found, apparently not acutely ill. The pulse was full, regular and compressible; rate, 70 per minute. Respirations were 22 per minute, full and deep, and with no evidence of any dyspnea. Temperature was normal. Ureanalysis was negative for sugar, albumin, casts, pus or blood, reaction acid and specific gravity 1.022. Patient declared bowels to be moving with usual regularity, and kidney function to be undisturbed. Pupils reacted to both light and accommodations; reflexes were normal. In short, the only symptom was the persistent headache, always in the same spot, not radiating in any direction, and greatly intensified by any movement such as walking or turning the head. Vision, tested with Snellen types was 20/20 in each eye, and hearing was unimpaired. He was given a mercurial purge and a supply of powders consisting of phenacetin 5 gr., salol 5 gr., caffeine citrate 1 gr., and directed to take one every three hours with 10 drops of spirits of camphor with each powder.

Two days later, he was in so much pain that he was placed in the hospital. Here a radiograph of the head was taken which showed nothing abnormal. Ophthalmoscopic examination showed choked disc, bilateral. There was involuntary urination. Beginning clonus of the right and left foot. Babinski's reflex present in the right foot, none in the

left. Gordon's paradoxical flexor reflex and Oppenheim's sign, indicating spasticity of the leg muscles, were present on the right side only. Patellar reflexes present and slightly more marked on the right. Cremasteric reflexes present and equal on both sides. Coordination slightly impaired. Mental state, clear. Occasional nystagmus to the left. No facial paralysis; no deafness; teeth in very poor condition; palate swollen; slight stiffness of neck muscles. Decided suboccipital tenderness on percussion. Kernig's sign, negative. No sensory changes. There was occasional projectile vomiting.

The patient took food and drink freely; bowels moved and were controlled; he was able to sit up in bed and smoke his pipe. When standing on his feet a tendency to fall to the left was observed. Adiadochokinesis (the inability to arrest a motor impulse and substitute one diametrically opposite) was constant. At this time, the blood count was: Red cells, 8,840,000; Whites 9,150. Blood and spinal fluid Wassermann test, negative. Spinal fluid under great pressure; cell count, 150.

One month following the beginning of the headache and six days after admission to the hospital, patient died suddenly.

The treatment consisted of ice to the head; magnesium sulphate once daily and, as stated, previous to hospital entrance, attempt was made to control the pain with synthetics. One hypodermic of morphine was given, which actually seemed to increase the head pain.

Requirement: The diagnosis justified by the above symptom complex, and what measures would have given any promise of help.

Clinical Notes and Practical Suggestions

Pellagra

PELLAGRA is probably more prevalent than many physicians imagine. It is an acute, subacute, or chronic, infectious and mildly contagious disease with initial symptoms of catarrhal inflammation of the respiratory and sometimes the digestive tract, muscular pains, nervous disorders, temperature 99 to 103 degrees for a week or ten days, with a tendency to continue in a subacute or chronic form for weeks, months and perhaps for years.

Since described by Casal in 1735, corn products and low-protein diets have been considered by many as the chief etiologic factor in the production of pellagra and a more generous diet regarded as a cure. Health reports from various countries during and since the late war, however, show that scarcity of food or any combination of diet seems to have failed to increase the spread of this disease.

Specific Microorganism

The affection seems to be induced by a bacillus *pellagrae* which may be obtained from the sputum in the initial stage of the disease and later from the feces, from which it may be cultivated for a number of weeks or as long as the disease is at all active.

The organism was observed in 1910-13 while making some 11,000 microscopic examinations of feces for various intestinal parasites associated with pellagra. The bacillus became more and more closely associated with the disease with the increase of knowledge concerning its constant presence in connection with definite and usually accepted symptoms of the pellagra; serological reactions in toxic cases; animal inoculation followed by quite definite symptoms of the disease, excepting the usual cutaneous manifestations; the absence of the bacillus in healthy persons unless they have at some time been directly exposed to, or are convalescent from, pellagra infection; the accidental infection of man

followed by definite symptoms of the disease; and the treatment with ichthyol and copper arsenite as a therapeutic test. All these demonstrations would seem to verify the fact that the bacillus is the chief etiologic factor in the production of this condition.

The bacilli are from two to four or five times in length as compared to diameter, ranging from 1.2 to 3 microns in length and about .6 to .75 microns in diameter. Oval forms are often observed in fresh cultures. The ends of the bacilli are slightly rounded. They are sporulating organisms, the spores forming near one end, in cultures from two to six weeks old. They are actively motile; The motility varies in degree with the culture media used and with the temperature and age of culture; fresh cultures in bouillon being most active. The bacilli stain with the usual anilin stains; are Gram-positive; aerobic (slightly facultative anaerobic); nongas-producing; liquify gelatine; grow on usual culture media at 37 degrees C. and at room temperature. A slight pellicle is formed on bouillon. It digests Loeffler's blood-serum; does not ferment dextrose, lactose, saccharose or maltose; and peptonizes milk.

Evidences of Causal Relation

First; it proves to be constant in the stool while definite symptoms of pellagra exist. It has been isolated from stools of three pellagrins three different times. It has been isolated from one specimen from each of twenty-one other patients suffering from pellagra.

Second; the organism in pure culture, when fed to mice, produces a toxin that causes death in twenty-four to ninety-six hours. Those that die early seem to die of septicemia. Those that live three or four days seems to die from general weakness and emaciation. The organisms are found in all the organs after death. Pure cultures have been obtained.

Third; blood serum from pellagrins as a rule has very little effect on the organism. In very severe cases with high fever the blood serum occasionally gives a positive Widal reaction. Serum from natural blisters occurring on pellagrins and serum from blisters produced by cantharides plasters in toxic cases renders the organism non-motile and agglutinates them in three to thirty minutes in a mixture of the serum with an active culture, in proportions of one to five, or one to ten, or even one to fifty. Similar tests were made with typhoid and colon bacilli with negative results. Serum from blisters of noninfected individuals gives a negative reaction with these organisms. Serum from blisters of a pellagrin agglutinates the organism from the same patient and other pellagrins also; a diagnostic point of importance.

Fourth; one of the several healthy persons previously examined with negative results, developed symptoms which proved to be pellagra, after accidental exposure in a laboratory. The organism was isolated from the stool on the third day after symptoms developed, and was again isolated from the stool eight and twelve months later. Other infections have ruled out any possibility of error as to previous infection.

Treatment

In the treatment of three hundred cases of pellagra, the writer has found ichthyol and copper arsenite of greatest importance. Ichthyol in four to six Gram doses, in pills or peppermint water, three or four times a day, is most valuable in the early weeks of the disease. It relieves the nervousness, prevents and cures the eruption, regulates the digestion and controls the disease.

In old cases, with a history of months' or years' standing, copper arsenite, grain 1/100 three or four times a day, offers an additional adjunct and in many instances an improvement over ichthyol when given simultaneously. Considering the theory of intestinal antiseptics, the author has used such combinations as:

R—Bismuth subgallate	2	grs.
Zinc sulphocarbolate	½	gr.
Beta naphthol	½	gr.
Copper arsenite	1/200	gr.
Ichthyol	2	grs.

to better advantage than either of the two drugs alone.

A symptomatic and supportive treatment become necessary in many cases. Sodium cacodylate once or twice a week for anemia.

Strychnine and sometimes digitalis is indicated. A nutritious diet is necessary—one that the patient can consume.

The prophylactic treatment is similar to that of measles and typhoid fever. However, we believe the susceptibility is much less, probably comparable with that of tuberculosis. Sewer systems, ventilation and, in the first stages of the disease, isolation should be instituted.

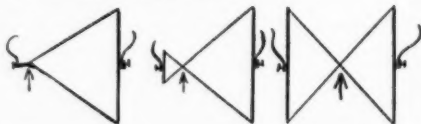
B. W. PAGE.

Maysville, N. C.

DIATHERMY

(Abstract of a discussion by Drs. Victor D. Lespinasse and Vincent J. O'Connor, of Chicago, before the Chicago Medical Society, North Shore Branch, April 7, 1925.)

Diathermy is sometimes called the "cold cautery". It produces a maximum of heat, within the tissues, of an intensity and location dependent on the relative size and position of the electrodes and the strength of the current. The point of maximum heat will be at the point marked by an arrow in the accompanying sketch.



The high frequency current, when properly applied, coagulates everything, including the blood vessels and the blood within them, hence there is no hemorrhage at the time, but it may occur, secondarily, when the slough separates.

Medical diathermy employs temperatures too low to produce destruction of tissue (below 122° F.). Surgical diathermy uses higher temperatures for producing desiccation of tissue (122° to 137° F.) or coagulation and carbonization (above 137° F.).

Diathermy is particularly useful to the urologist because, with it, it is possible to burn off a benign tumor of the bladder through a cystoscope, with the bladder full of water. Malignant bladder tumors should not be attacked through a cystoscope but through a suprapubic cystotomy opening.

It is well known that many bacteria, especially the gonococcus, are very susceptible to heat. Cancer cells and other embryonic or degenerated structures, as well as normal sperm cells, may also be killed by temperatures which will not adversely affect normal somatic tissue.

Heat is bactericidal, solvent, stimulating and promotes nutrition and, while the point of maximum heat in diathermy can be accurately controlled and localized, a lesser degree of heat, penetrates the tissues in all directions and produces beneficial results, especially in gonorrhea and cancer.

Coagulation should never be employed except where an opportunity for the free drainage of necrotic products is provided—hence, only on the surface or in open cavities.

In treating bladder tumors, avoid carbonization; and in working in any locality near large blood vessels, it may be well to ligate them before proceeding.

In treating the testicle, it is well to remember that temporary or permanent sterility may be produced by killing the spermatozoa.

SOME MISTAKES IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS

Observations based on cases seen at the Cook County Hospital, Mt. Sinai Hospital and various Dispensaries of the Municipal Tuberculosis Sanitarium

Nontuberculous Conditions Diagnosed as Tuberculosis

Many cases were diagnosed as tuberculosis as part of antituberculous campaign to diagnose this disease early. Symptoms of many other diseases simulate tuberculosis. Practically every variety of medical and surgical disease is sent annually to Cook County Hospital and to the tuberculosis dispensary diagnosed as tuberculosis. All tuberculosis sanatoria have cases of nontuberculous diseases.

1. Diseases having symptoms similar to tuberculosis—

- (a) Hyperthyroidism—diagnosed by constant tachycardia and elevated basal metabolic rate.
- (b) Mitral stenosis—diagnosed by characteristic physical signs of enlarged heart, presystolic murmur and thrill and frequent auricular fibrillation.
- (c) Subacute infective endocarditis. Normal or slightly elevated temperature, enlarged spleen, clubbed fingers, painful nodules on toes, petechiae and finding of streptococcus viridans in blood culture.

2. Diseases having pulmonary findings similar to tuberculosis—

- (a) Basal pulmonary lesion, following influenzal infection. Dullness, bronchial breathing and râles in lower portions of lung, while apices are clear.
- (b) Chronic bronchitis and asthma. No focal lesions but evidence of emphysema and diffuse sonorous râles.
- (c) Non-tuberculous chronic infections of lungs
 - (1) Syphilis—Diagnosed by positive history, positive Wassermann and favorable response to anti-luetic treatment.
 - (2) Actinomycosis—Diagnosed by exposure to cattle and finding of ray fungus in sputum.
 - (3) Blastomycosis—Diagnosed by associated skin lesions and findings of yeast fungus in fresh sputum.
 - (4) Streptothricosis—Recognized by finding various forms of streptothrix in sputum while negative for tubercle bacilli.
- (d) Neoplasm of the lungs

Benign or malignant. Diagnosed by physical signs of flatness, suppressed breath sounds and absence of signs of moisture, which are usually found in tuberculosis.
- (e) Foreign bodies in the lungs

Diagnosed by history and x-ray findings of either foreign body or zone of localized emphysema, which is very suggestive.
- (f) Pulmonary abscess-infarct-gangrene

Diagnosed by characteristic odor, purulent sputum and finding of area of dullness, bronchial breathing and râles at base.
- (g) Upper respiratory infection

Especially common in children with tonsil, adenoid and sinus disease. Low grade temperature, general malaise and findings of apical collapse.
- (h) Non-tuberculous pathology in apex—collapse or induration of apex, giving rise to dullness on percussion. Frequently found during routine examination in people having no other evidence of tuberculosis. Negative sputum by repeated examinations is an important feature of all the above conditions.

Cases of Tuberculosis Usually Undiagnosed
Important in prophylaxis at extremes of age—

- 1 **Infants**
 General death statistics show about 50 percent of all deaths below one year are due to tuberculosis. Pathogenesis. Occurs as an acutely fatal general infection in infants due to lack of immunity.
- 2 **Tuberculosis in the aged**
 A slightly active fibrous disease usually masquerading as chronic bronchitis and emphysema. An important factor in the spread of tuberculosis—by carelessness with sputum and fondling of infants.

Prevention of Errors

- 1 Analysis of symptoms and findings without prejudice.
 Most tuberculosis workers and institutions regard a case as tuberculosis until proved otherwise.
- 2 A broader knowledge of general medicine—to be familiar with diseases other than tuberculosis, giving rise to similar symptoms and findings.
- 3 Physical signs—begin nearly always in the apex.
- 4 Sputum analysis. Antiformin method on 24 hour sputum. Repeated examination in marked cases with negative sputum rules out tuberculosis.
- 5 Careful interpretation of results of tuberculin test. Positive tuberculin test without clinical evidence indicates tuberculous infection only, not tuberculous disease.
- 6 Careful interpretation of results of x-ray examination. X-ray findings without clinical signs should never justify a diagnosis of active pulmonary tuberculosis.
- 7 Establish a group of suspected tuberculosis cases and keep them under constant observation without stigmatizing them as tuberculous until sputum is positive or other positive evidences appear.

Conclusion

- 1 Great care should be exercised in the diagnosis or exclusion of tuberculosis, as errors in diagnosing nontuberculous cases will not only unjustly

stigmatize these cases as tuberculous, but also deny them proper treatment for their disease. Correct diagnosis will also relieve them from the tuberculosis restrictions of the Health Department unnecessary for them.

- 2 Failing to diagnose tuberculosis by careful sputum analysis is a cause of infection, especially among infants where it is usually fatal.

MAURICE LEWISON.

Chicago, Ill.

Reprinted from the *Bulletin of the City of Chicago Municipal Tuberculosis Sanitarium*.

SPINA BIFIDA TREATED WITH METAPHEN

Mrs. S. M. B. was delivered of a male child, June 1, 1924. Labor normal.

The child presented a well-marked case of spina bifida of the lumbar region, the tumor being the size of an ordinary orange and covered with skin, except at the top, where there was a thin membrane the size of a silver dollar.

Having made no especial preparations for such an emergency, I decided to use the materials at hand and note the results. I, accordingly, made up a solution of metaphen, using one dram to 12 ounces of distilled water (4 Cc. metaphen to 360 Cc. of water) and saturated squares of gauze in this, applying them over and below the tumor and leaving orders that this dressing be kept moist with the solution until my return.

The next day conditions were so favorable that I continued the treatment and, as matters progressed satisfactorily, I saw no reason, later, for changing it, except that, after six weeks, I doubled the quantity of metaphen (8 Cc. to 360 Cc. of water) and, three months later, again increased the strength to 12 Cc. in 360 Cc. of water. The dressings were kept thoroughly saturated with these solutions.

At the end of 3 or 4 months, the tumor had almost entirely disappeared and the membranous area was entirely covered over. The overlying tissues were macerated, looking like the top of a cauliflower. This condition cleared up when the treatments were stopped.

The child's condition, on April 16, 1925, is as follows:

Age, 10 months, 16 days.
 Weight, 21 pounds, 13 ounces.
 Four teeth have erupted.

Lies flat on back and pulls himself up to a chair. Is making an attempt to walk.

Mental conditions, good. Plays, claps his hands and says "Da da."

WALTER A. SHAW,
Springfield, Mass.

A NOTE ON THE DISASTROUS EFFECTS OF EXCESSIVE JOY

The effects of excessive pleasurable emotions are as disastrous as those of excessive detrimental emotions; but the fact that persons are more often subjected to paroxysms of anger and grief than to those of joy makes it appear that the influence of excessive sorrow is more marked and fearful than the influence of extravagant joy. This is a false assumption, and there is ample proof to uphold this contention.

The Greeks record the fact that Sophocles, at an advanced age, composed a tragedy that was crowned with so great a measure of success that he died from extreme joy. Chilon, of Lacedemon, likewise, it is said, died from joy while embracing his son, who had borne away the prize at the Olympic games. Aristotle tells us of Polycrita, a lady of noble birth, who suddenly expired in raptures of joy at some unexpected good fortune. Livy related the case of a certain old woman who fell into a transport of grief on hearing of her son's death in a battle at Cannae; but soon this was proved false, and the woman was so overcome with joy that she died.

In later times, it is recorded that Juven-tius Thalma, to whom a triumph was decreed for subjugating Corsica, fell dead at the foot of the altar at which he was offering up his thanksgiving. Pope Leo X was so overcome with joy at the triumph of his party against the French that he expired. Dr. Good, in his "History of Medicine", cites the case of a clergyman who, at a time when his income was limited, received the unexpected tidings that some property had been bequeathed him. "He arrived in London in great agitation; and, entering his own door, dropped down in a fit of apoplexy, from which he never entirely recovered."

That extreme joy kills is not doubted and, strange as it may seem, extreme and sudden happiness is to be shunned like hate and insane fury. Extreme emotion of any kind seems to set in motion the same mechanism that finally leads to the demise of the individual. There seems to be, primarily,

a power excitation of the heart. Haller, in his "Psychology" says that "excessive and sudden joy kills, by increasing the motion of the blood, and exciting a true apoplexy." This is, undoubtedly, the case in many instances. Any intense and sudden stimulus brings on its bad effects by exactly the same route. There is often a congestion of the various organs; oftentimes hemorrhage and rupture of vessels. Dr. William Cooke, in a lecture to the Hunterian Society in London, 1839, summed this phase in the following paragraph: "Under the influence of excessive joy, there is often indicated a congestion of the liver, of lungs, and of the mucous membranes—hemorrhage from congestion as well as from rupture of vessels, and sometimes even inflammation. Under the exciting emotion there takes place a dilation of arteries attended with increased vascular power and energy of function."

Perhaps the most important consideration of the effects of extreme joy is on the endocrine system. There are numerous instances where fright has been the direct attribute of the onset of exophthalmic goiter. Excessive joy has often been the cause of the same condition. Intense stimulation, such as is occasioned by extravagant happiness, may very conceivably bring on a state of endocrine hyperactivity. Perhaps the most important glands affected by extreme emotion are the adrenals. Cannon has shown that the adrenals are affected, with an increase in their secretory power. As is well known, adrenin raises the blood pressure; it dilates and increases the vascular power of certain organs. With an overabundance of adrenin in the system occurs simultaneously an increase of power.

Apoplexy is the most common condition brought on by extreme joy. In such cases it has been found that the blood pressure is raised from 20 to 30 mm., and if such excitement occurs in patients having a high tension, there is often a systolic blow in the second intercostal space at the right of the sternum.

The influence of excessive joy has always seemed to me a very interesting problem, and it is rather unfortunate that more work on the subject has not been done. Perhaps it is not so easy to induce a high state of happiness in an individual as it is to inspire fear, anger, or worry. A postmortem on an individual who died from joy, I am sure, would yield many interesting results

that would help us greatly in understanding the mechanism of this emotion. What are the influences of extreme joy on the various organs? Are there any drugs that will induce artificially a state of happiness much after the fashion of the drug that Rusby found among a tribe of South American Indians that induces unlimited courage?

EDWARD PODOLSKY.

Brooklyn, N. Y.

HOW TO PROLONG LIFE

During the campaign for the 44-hour week, members of the I. T. U. made the claim that the reduction of the 48-hour week to 44 hours would prolong the life of a printer nine years. Since that time, others have been busy on this life lengthening problem, with the following result:

- Work 44 hours at 48 hours' pay, and gain 9 years.
- Work 40 hours at 48 hours' pay, and gain 18 years.
- Work 36 hours at 48 hours' pay, and gain 27 years.
- Work 32 hours at 48 hours' pay, and gain 36 years.
- Work 28 hours at 48 hours' pay, and gain 45 years.
- Work 24 hours at 48 hours' pay, and gain 54 years.
- Work 20 hours at 48 hours' pay, and gain 63 years.
- Work 16 hours at 48 hours' pay, and gain 72 years.
- Work 12 hours at 48 hours' pay, and gain 81 years.
- Work 8 hours at 48 hours' pay, and gain 90 years.
- Work 4 hours at 48 hours' pay, and gain 99 years.
- Work no hours at 48 hours' pay, and live forever.

By following out this line of reasoning, one cannot but think that the sole reason for a printer dying is that some time in his early youth he was indiscreet enough to work.—*Employing Printers of America.*

CHLORINE GAS IN COMMON COLDS

Two very interesting articles appeared in the March number of *CLINICAL MEDICINE* on the treatment of colds. These articles would indicate that the medical profession is arriving at a stage of development where

it has something definite to offer in the treatment of this most common and troublesome infection.

Aside from the medical aspect of common colds, there is a staggering economic loss which annually runs into nine big figures. Any method that will relieve the physical suffering and halt this great money loss is well deserving of careful consideration.

Today it is not information to say that the common cold is an infection, starting in the nasal mucous membrane and extending thence to the entire respiratory tract and the cavities connected therewith; every doctor now knows this. But that this local infection demands local treatment seems not to be so generally considered in the various treatments offered. However, the two articles above referred to take cognizance of this fact and address the treatment largely to the local condition. This is as reasonable as applying antiseptics to an infection upon the external surface of the body.

I have not used metaphen, but, twenty-five years ago, I began using a nasal douche along the same lines as mentioned for metaphen and with equally good results. I will not discuss that treatment here. What I desire to bring to the attention of the reader is the use of another specific, which as yet has been given little attention in the medical press, but which, I believe, has many advantages over any other treatment yet devised for combating acute infections of the respiratory tract, viz: Chlorine. It is no more trouble to administer this treatment to twenty-five people than it is to one, the only question is a suitable room. No doubt, when this remedy becomes better known, the large schools, great industrial institutions, department stores in big cities, municipalities in time of epidemics, churches, theaters, etc., will be provided with chlorine-gas rooms just the same as Congress and House of Representatives are now. This would be the simplest, most effective, least expensive method of dealing with such propositions. One hour's treatment will clean up the ordinary fresh cold. If the case is of several days' duration, it may need two or three treatments. The number of cases not cured with three treatments are so few as to be negligible. Owing to the simplicity, certainty, and harmlessness of this treatment, I believe it is not too much to expect to largely supplant other methods of handling colds and acute respiratory infections.

When chlorine gas was first made available to the medical profession last year in ampule form, I had fitted up in my office a special room for its administration. The results obtained by this treatment approach the miraculous. I cannot see where there is room for much improvement. When a patient can be cured of a bad cold in one hour, sitting in a comfortable room, reading the paper or magazine or conversing with other patients, suffering no inconvenience, it would seem that the acme of perfection has about been reached.

G. A. McDONALD,

Fairfield, Ill.

[Much discussion is appearing in the periodical medical literature on the subject of the actual value of chlorine gas in the treatment of acute respiratory infections, and, until the question is definitely settled, one way or the other, it seems rather unfortunate that it has been so widely exploited in the newspapers.

Every physician who is using this treatment can aid in reaching this decision if he will make careful records of all cases so treated, showing the clinical and laboratory findings (if any laboratory examination was made); the exact treatment used, including the concentration of chlorine gas employed and the time and frequency of administration; and the exact clinical and laboratory findings immediately after its use, as well as 24, 48 and 72 hours thereafter.

Papers like this of Dr. McDonald's are interesting and suggestive, and frequently helpful from a clinical standpoint, but have little value as scientific investigation.

We shall endeavor to have the doctor give us some more details.—See Editorial, "Case Records and Scientific Medicine", *CLINICAL MED.*, January, 1925, p. 4.—Ed.]

VESICO-URETHRAL FISSURE (A Clinical Note)

Case Report:

Mrs. W. was confined with her second child in September, 1923, and from that time until I saw her she had suffered severely with burning pain in the lower pelvic region whenever she urinated or had to be on her feet a good deal. When lying down, she was perfectly comfortable, but on assuming the erect posture the pain would begin again. She had been treated by several physicians without relief.

This is a typical history of a case of vesico-urethral fissure, of which rather rare

condition I encountered a case some years ago, which made a profound impression upon my mind.

In looking over 15 works on gynecology, I find only 4 that mention this affection, and the best description is in Ashton's book (edition of 1905), where the statement is made:

"It is important that this disease should be distinguished from urethritis or cystitis, as there is a strong resemblance in the symptomatology of all three affections, and, while vesico-urethral fissure is a comparatively rare condition, no excuse can be offered for overlooking the lesion."

[It is discussed in Penrose's "Diseases of Women," 1908, p. 431, and in Polack's "Manual of Gynecology," 1922, p. 369. The former has the better description.—Ed.]

My treatment consisted of dilating the urethra and applying a 50-percent solution of silver nitrate to the fissure. This was repeated three times, after which I injected about ½ ounce (15 Cc.) of a 50-percent solution of argyrol every other night, in such a manner that as much as possible would remain in the neck of the bladder and the upper part of the urethra.

The case progressed nicely and the woman now declares that she feels entirely well.

T. C. HUMPHREY,

Portland, Ore.

PNEUMONIA WITH AN APPARENTLY SUCCESSFUL TREATMENT

[Abstract of a Paper read before the Chicago Medical Society, February 11, 1925, by Dr. Bernard Maloy, of Chicago.]

The treatment of pneumonia which Dr. Maloy has employed for twenty-one years is as follows: Upon the first visit, he leaves tablets of calomel and sodium bicarbonate, with three or four ounces of a solution of tincture of aconite and tincture of veratrum viride, made from the fluid extracts. Eight or ten one-fourth grain tablets of calomel are given an hour apart and they should be crushed. If laxatives have been given before his arrival, he gives the calomel anyway. If there is much increase in temperature, he orders half a teaspoonful of the solution of the tinctures given every fifteen minutes or half hour during the first three or four hours, after which a teaspoonful should be given at two or three hour intervals during the first day or two. The third and fourth day the solution is given in teaspoonful doses every three to five hours, depending upon the patient's pulse

rate and general condition. He has never observed any untoward action on the heart from these drugs, and believes it logical to assume that there is still much to learn regarding their action. The patient is urged to drink half a glass or more of water with each dose of medicine. During the first three or four days, the patient should be aroused regularly, night and day, for his medicine and nourishment. The tablets of calomel should be taken within a period of eight to ten hours and several hours later at least two heaping tablespoonfuls of Epsom salts should be given if the patient is an adult. Unless he is extremely weak, he should sit upright during defecation.

In the afebrile cases he uses the same eliminative drugs, with the same solution of tinctures, but the solution is given in teaspoonful doses every two hours during the first twenty-four to thirty-six hours, after which it is given every three to five hours, depending upon the results obtained.

If the patient has been accustomed to drinking milk and the doctor feels reasonably certain that it will be assimilated, he orders milk several hours after the salts have acted thoroughly. He urges the taking of plenty of soup and broth, with two or three feedings during the night, instead of milk. If the pneumonia is of the influenzal type he does not advise the use of milk, but depends upon soup and broth for nourishment. If the patient is a coffee drinker, an occasional cup of coffee does no harm, and may be beneficial. In some cases, he gives no medicine after the third or fourth day, unless it is necessary to give a stimulant. In the majority of cases the vigorous elimination at the onset of the disease, and the seemingly beneficial effects of the tinctures, leave the patient in such a condition that he seldom refuses nourishment.

Upon the first indication of a failing pulse or respiratory weakness, he gives a tablespoonful of good brandy, to which is added two drams of sugar and an ounce of water. This is repeated every two hours until improvement is seen. If the pulse does not rally after one or two doses, two, three or four times as much brandy is given with the same proportion of sugar and two or three ounces of water. If the brandy alone is not followed with good results, he dissolves a hypodermic tablet of glonoin, strychnine and digitalin in each dose of the brandy, and in some instances he uses two

such tablets to the dose, thereby giving 1/25 grain of strychnine at one time. If this brings about no improvement after the administration of two or three doses at intervals of two or three hours, he continues with the brandy but gives one or two tablets hypodermically. Very rarely has he found it necessary to give two tablets at one time, either hypodermically or by mouth. As soon as the pulse improves, he reduces the quantity of brandy, lengthens the interval between doses, or gives none at all unless an unstable pulse or dyspnea again appears. If the patient is delirious, comatose, or even apparently moribund, he arouses him and forces him to swallow by calling loudly into his ear or shaking him, while the brandy is poured slowly under his tongue.

Dr. Maloy gives very little medicine for cough, but urges the patient to refrain from coughing. About three days after the crisis, he occasionally orders an expectorant to be given two or three times daily. Only rarely does he give morphine for the pain. Two long adhesive strips applied to the side for a day or two usually afford sufficient relief, after which they are removed. A tonic mixture of arsenous acid, clear syrup of hypophosphites and sherry wine is begun the second day after the crisis, when it appears necessary. It is given in teaspoonful doses every four or five hours for a day or two, or in tablespoonful doses three times a day, with meals. No other medicine is given at this time, for an alimentary canal that is clear of medicine is more likely to accept food and digest it. He believes it advisable in some cases to give a few drops of spirit of nitrous ether, or the solution of potassium citrate during the first several days, but usually the large quantity of water taken serves to produce ample elimination through the kidneys. He orders a tablespoonful of Epsom salts on the fifth or sixth day and again a few days after the crisis.

If the patient perspires freely, he does nothing to check it, but urges him to keep his body and limbs well covered at all times. The patient should lie between blankets and all precautions should be taken to avoid chilling the body. The air in the room should be fresh at all times but always warm. Nothing is worse for such a patient than to be kept in a cold room or to have the bed near the window. Alcohol rubs should not be given, nor any sort of bath

nor change of clothing until the crisis has been safely passed. He does not permit the use of jackets or any application to the chest, but uses every means available to avoid worrying, wearying and frightening the patient. The patient should not be permitted to lie on his back except for short periods and his position should be changed every few hours. Just why the tinctures given together apparently succeed in checking the onset of pneumonia, Dr. Maloy was unable to say, but he is convinced that they aid in aborting pneumonia if given properly. He believes the treatment outlined is as valuable in influenza as in pneumonia, and in his opinion strychnine, nitroglycerine and digitalin combined in a hypodermic tablet, given alone or with brandy, is the very best stimulant obtainable, and is almost as valuable a remedy in pneumonia as are the combined tinctures.

[This treatment, while entirely symptomatic, seems logical and has much to recommend it.

The dosage of aconite and veratrum viride is not stated, and it would seem reasonable to replace these fluid extracts by the active principles, aconitine and veratrine, in appropriate doses to meet the conditions.

The writer believes that sodium citrate, in doses sufficiently large to definitely modify the acidity of the secretions, would be a distinct addition to this treatment. —Ed.]

Reprinted from the *Bulletin of the Chicago Medical Society*, for February 21, 1925.

HAYFEVER PATIENTS ON A VACATION

During my last vacation up in northern Minnesota, I learned a few things that I am sure will be of interest to all general practitioners and especially to those who have hayfever patients going on vacations.

I learned that a hayfever patient should not go in swimming in a lake where the water has green algæ floating in it, which is so common during the month of August and the first part of September. One hayfeverite did this and had a rather severe skin reaction and, in forty-eight hours, a characteristic attack of hayfever, which subsided in two or three days.

Regarding the calcium deficiency which is found in hayfever patients and the best way to combat it, Dr. Hollander, in his re-

cent investigation, has suggested calcium lactate. I suggested to some of my hayfever patients that, in the place of calcium lactate, they try calcidin, and every one of them testify that it gave relief. I was surprised that even some of the old asthmatic patients were greatly relieved by the use of calcidin. I do not know whether I give calcidin in proper dosage or not, but I advise giving fifteen grains three or four times a day. Last season proved to me that it is a very useful remedy in hayfever, and especially for the distressing cough.

Let me add this: atomizers are a curse to a hayfever patient and they should not allow their skins to become suddenly chilled, at any time of the day or night. They should wear a light, woolen vest all the time to protect the skin from sudden chilling.

G. G. BALCOM.

Lake Wilson, Minn.

DOES THE LACK OF MINERALS IN OUR FOOD AFFECT HEALTH?

There is a sanatorium somewhere in the United States under the direction of a physician who, it is reported, is making some very wonderful cures. The only medicine administered is the food grown on the farm belonging to the sanatorium.

This was brought to my attention but recently and I am wondering if the doctor has made the same discovery in regard to the deficiency of minerals in the soil as we have, working to supply the deficiency of minerals in plant food for our cattle, the results of which are proving so satisfactory that we are now mineralizing our entire farms and gardens for the benefit of ourselves.

The following paragraphs deal mostly with farm problems, but may we not reason by analogy that if the land has been robbed of its minerals to the harm of cattle, it has also been robbed to the detriment of man? Just how seriously we have upset the balance of nature in relation to food production will not be difficult for anyone to ascertain.

From each acre of soil approximately 390 to 400 pounds of minerals are removed with each cultivated crop. Multiply this by the number of years the land has been under cultivation and we have something to think about, especially as these minerals are but slightly replaced by our present method of farming.

We have learned how to grow plants by stimulation, by the use of manure, which contains a large amount of nitrates, and by the use of nitrates on the growing plant, which temporarily overcomes the harmful effect of aluminums in the soil, especially where there is not a balance of minerals as contained in virgin soil.

It has been shown that, without doubt, lack of minerals is a cause of serious losses among cattle, especially at the time of gestation. Weak or still-born calves and retention of the after-birth is an ever increasing occurrence on dairy farms. As a cure for this, farmers are advised to feed ground bone, raw phosphate rock, calcium, etc., of some of which I question the assimilation.

The question arises, if milk lacking minerals will not support the progeny of the cow, what may be its value as a food for human consumption? That there is a difference in milk is evident to those who have seen the vigorous sleek calves of stock grazing on the grasses of virgin soil or on salt bottom lands along the shore. Compare this stock with the stock on dairy farms where the mothers have been fed to produce 4 percent butter-fat and the difference is all in favor of the stock feeding on virgin soil without the benefit of a grain ration.

The statement we have made is that we have learned how to grow plants by stimulation. It is generally supposed that barnyard manure is a completely balanced plant food and I ask the question, why is it that on the spots in fields where piles of manure stood before spreading, after the crop is planted and before harvest, the plants are sure to lie flat on the ground? Farmers say that the plants are so heavy that they cannot stand. The fact is, the plants are produced by stimulation, lack the necessary minerals and accordingly are too weak to stand.

I have before me a letter wherein a farmer asks an agricultural publication, "Why is it that my corn continually blows down, which was not so in the early days?" There is only one answer, lack of minerals and imperfect root system; and if the plant be examined, it will be noticed that it has a soft, waxy appearance, the fibrous matter in the plant being especially weak.

In bringing this matter to the attention of a well-known Philadelphia physician, he said, "I wrote an article on that 12 years ago, contending that Kentucky bred the

best horses because of certain minerals contained in Kentucky blue grass," but he said, "I never thought of it in the way you are presenting it and I believe that you have laid a most important matter before me."

I am informed that there is a lack of calcium salts in tuberculous people, and that Prof. Coutiere of Paris is now treating tuberculosis with lime, while Prof. Albert Robin of Paris has particularly called attention to the fact that an outstanding chemical characteristic of persons afflicted with consumption is the lack of mineral salts in their tissues. Who knows but that, in some way, the lack of minerals in our food may be one of the causes of cancer, as it has been shown that goiter is due to lack of mineral salts?

I do not wish to trespass further on the courtesy of CLINICAL MEDICINE and in closing let me say that I wish that country practitioners who, because of their medical training, are much better fitted to carry on this work, will give serious consideration to this matter and, should they have gardens attached to their homes, I shall take pleasure in telling them of our experiments and what we have accomplished in not only increasing fertility, but in growing stronger and more vigorous plants and, as our experiments go over a number of years, they may be of value.

J. B. HAINES,
Evergreen Farms.

Gwynedd Valley, Montgomery County,
Pennsylvania.

DRUG ADDICTS AND THE PHYSICIAN (A Reply to Dr. Hegyessy—April Clin. Med., p. 256.)

I am not challenging Dr. Jos. Hegyessy for a debate on the cause of drug addiction, but I certainly cannot believe that physicians cause the majority of addicts by careless administration of opium and its derivatives; in fact, I feel reasonably sure that the number of such cases which physicians cause is negligible and that there has been too much stress put on doctors being the cause of so many "dope fiends".

The laity do not understand all these accusations they read about and they get to mistrusting doctors as a whole. I have had many patients that objected to having any kind of medical treatment that was given with a hypodermic needle, no matter what it was—digitalin, strychnine, iron or any of the many other remedies that are now given

with the needle—and some positively refused to have it. Upon inquiry, they say that they have read and heard so much about “getting to where they have to have them” that they never want the first one. It is a hard matter to gain their confidence and make them realize that all medicine that is given with a needle is not morphine. In many cases of anemics where I have wanted to give intramuscular and intravenous medication, I have been handicapped by that hysterical fear of addiction.

Surely, we all should be careful and use good judgment in the administration of opiates, and I think it best not to tell the patients what they are taking. In cases where we see that the patient is beginning to like the drug too well, withdraw it immediately if possible, or at least as soon as possible.

My boyhood days were spent in “Dixie Land” on the old cotton plantation and at that time there were few physicians, but every plantation owner had his drugs and he administered them. His medical cabinet contained calomel, rhubarb, santonin, and quinine for most ordinary sicknesses; then he had paregoric for the babies’ “tummy-ache” and laudanum for the grown-ups’ bellyache (they didn’t know anything about appendicitis); and he had morphine for accidents. These drugs could be had at almost any grocery store and all drug stores and could be purchased by any person who wanted them; however, I don’t remember ever seeing a youthful addict and very few of any kind; the only ones being some old persons who had had a fractured hip or a chronic ulcer or something of that kind. The addicts we then had were caused by the laity being able to buy the drug themselves and not by the doctor.

I am sure that physicians are much more careful now than they were ten years ago, and since the laity cannot buy opiates any more without a physician’s prescription, the cause of addiction must be somewhere else; I am inclined to think it is more from “drug peddlers” cultivating a field for their product than from any other source. In any case, I have more confidence in doctors in general than to believe that the majority of addicts are caused by the careless administration of opiates by the profession.

From some pictures that are painted, many people would think that if a person had ever had a half dozen doses of morphine in his life he would be ruined physically, morally and every other way; but opiates have a wonderful place in medicine and surely we all should use them cautiously, which I believe most physicians do.

I wish some statistician would give us the proportions of people that are dying from imprudent eating compared with the number of drug addicts. I feel quite sure the former will exceed the latter; and, yet, you hear little of how people impose on their stomachs.

I am sure that I have never made a single addict and I feel certain there are many other doctors who have not.

Ferndale, Calif.

OLIVER B. BARRON.

DRUG ADDICTS

In connection with the letter of Dr. Jas. Hegyessy and the editorial comment thereon, which appeared on p. 256 of our April issue, it may be of interest to note that the editor’s comment is justified by figures published in the *Nation’s Health*, for Jan., 1925, where the statement is made that the number of drug addicts in the United States, at present, is about 110,000 (less than one per thousand of population) and has been gradually decreasing since 1900.



The Leisure Hour

Conducted by GEORGE H. CANDLER

Canoeing in Canadian Waters

Part II.

By J. C. BOERTLINE, Cleveland, Ohio

AFTER passing Big Pine Rapids, we saw a buck lying on a sloping rock at the water's edge. We made a careful approach and then the guide shouted. Nothing happened. The buck was dead. Examination showed that he had been badly wounded in one of the hind quarters, had sought water, and died there. It is distressing to see these cases where it is evident that the creatures must undergo a tremendous amount of suffering before death relieves them. We took photos and left.

We shot the Little Parisian Rapids and passed through Crooked Rapids, which is nothing more than swift water, and had a clear stretch in front of us. That was the last of the Five Mile Rapids. At all rapids except the last two we unloaded and portaged.



White Water—Big Parisian Rapids

The trip down stream was halted at noon for lunch. Successively, we then passed Bark Lake on our right, The Haystacks—which are two islands in the river—Owl's Head, another island, and then the Palisades, which are vertically rising walls of granite about one hundred and fifty feet high, on the north bank. At this point we turned to the left and made our way through a narrow which carried us into a bay south of the main channel. Continuing through this, we came to a narrow, which is the

entrance to so-called Horseshoe Bay. This is a beautiful spot, and as good as any if one cares to establish a fixed camp. There are many interesting islands here, winding channels, good fishing and splendid rock scenery. There are also deserted lumber camps here.

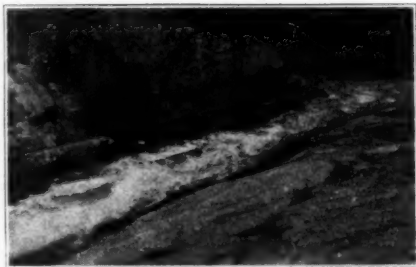
We continued south to the end of the bay and then portaged around Horseshoe Falls into the Pickerel River. Here, things began to look a little more populated. To the west of Horseshoe Bay is Cantin's Island, an Indian reservation and the Indian settlement is on the Pickerel River shore of this island. Across the river from the Indian reservation is a sawmill in operation, and a little community has sprung up about this mill. The people are mostly French. The guide's home is close by and we picked out a point of land for our camp and brought up our canoes. It was about 5:00 p. m., and we had made twenty-five miles, including the Five Mile Rapids. It seemed like good going but we decided to stop here.

Just as soon as this decision was reached it began to rain. Two men went into the forest to cut tent poles and the other two put covers over the food supplies and our duffle, and got the tent into place. That evening we went over to the settlement at the sawmill and added a little more food to our supplies. The next morning we packed up and continued west on the Pickerel River. About a mile and a half down stream we passed under the bridge of the Canadian Pacific Railway, which is similar to the one over the French River which we passed the first day.

For the greater part of the day we traveled on this stream, occasionally coming to wide stretches where other waters joined this stream or where rivers or channels departed to the south to empty into Georgian Bay. This section seemed to be more populated on account of its better

accessibility from Georgian Bay. We came upon a raft of logs. The guide stopped and stepped out on the logs. He was able to run over them quite expertly but when one of our men tried it he fell into the water. There is a knack to this and one is quite sure of a wetting on the first attempt. The logs have a treacherous habit of rolling, and the novice is taken unawares if by chance he steps on a small log and it disappears under his feet. The secret is to look around for a large log and then make quick progress toward it, touching the smaller logs between, only lightly. It is like skating on thin ice. You must move fast.

We came, toward the close of day, to the Bad River. We went down this a short distance, passing a farm on the left; soon we came to a cove and here pitched camp for the night. The next morning we continued down stream and ran into some swift water which one can shoot. The river—or, I may say, rivers have numerous outlets. Earlier the previous day the French River was passed at its junction with the Pickerel. Along the shore of Georgian Bay for about twelve miles eastward there are numerous outlets to this river system, grouped into eastern, middle and western outlets. We were at the western outlets.



More White Water—Rapids on Mimising Creek

We pitched camp on the Voyageur Channel, and the next day went in for a more extensive fishing effort. Up to this time we had confined our efforts to traveling, exploring, and picture-taking. We did not find fish so plentiful that all we had to do was to throw in the bait and have it taken at once. At one spot large-mouthed bass were biting regularly, i. e., one did not have to wait long for a bite, and they struck hard enough to become well hooked. Generally, when this happens it appears that there is a small school present and they seem to vie

with one another in getting the bait. After about a dozen and a half are caught the sport at that particular spot ends. In addition to the above fish, one can always find pike which will strike at a spoon or artificial wriggler of the crab type. The bass I have found bite best on live bait, particularly minnows. When the supply of minnows is gone the bass are no longer interested.



A Placid Pool on North Channel

The wall-eyed pike or pickerel is somewhat more game than the pike. The latter have a slimy coat. They are eatable, however. They are not like our lake pike, but have a head like a duck's bill, and are similar to the muskellonge, which here, as elsewhere, is a game fighter. The boys had some interesting sport with one, and another fish which remained out of sight, afforded such excitement that the general verdict was that it must have been one of these game fish.

One of the men had a strike. For bait he used a perch about five inches long. He tried to jerk the hook into the fish but it came away, so he reeled in to see the damage to the bait and at last lifted the bait from the water by the motion of his rod. The bait was followed immediately by a large muskellonge which made a rush out of the water. The fish snapped up the bait and the line also snapped. The next day we trolled over the same spot. The same man who had lost his bait claimed that he had caught a snag so we backed up slowly and he reeled in his line. When the line was nearly vertical, it gave a sudden swish and drew taut so that the man with the rod said it felt like a log on the end. There were two more sudden swishes, then the line remained

fixed and at the same time a disturbance of the water started as though it were being stirred up by a propeller wheel. Suddenly the tension was released and the line came up. On examination, a scale was found on the hook.

Three- and four-pound bass were plentiful; a seven-pound pickerel was caught but the big fellows escaped. Pike were generally returned to the river.

One day we went on a frog hunt. Our first procedure was to shoot them with 22-caliber bullets and then fish them out with a frog spear. We later developed another, possibly more satisfactory, way. I had noticed that when I held a twig directly over and close to a frog it would not be frightened away. Tickling its nose with the twig had no effect and, if persisted in, frequently caused the frog to snap at the twig on the assumption that it was alive. So we used a hook on a line. You can place this on a frog's body and he will not move. By placing it on the far side of the frog and then allowing it to droop on the frog's body, you can draw the line over it until the hook comes in contact with the body. A quick jerk of the line will usually hook the frog. The damage to it is nothing like the punctures inflicted by the spear. A rap on the head finishes the frog. Out of the twenty-five frogs approached in this way, in one pond, not one escaped.

With such diversions we put in several days at this camp. One day we went blueberry picking and gathered enough to last for the rest of the trip.

The following day we turned back north and continued from Bad River across the channel and in the same direction into the Wahnapiatae River. Here we encountered similar scenery, together with rapids and falls, as in the previous waters. A day was spent going up and back a distance of about ten or twelve miles each way. The next day we returned up the Pickerel River going east and stopped again at our former camp site near the sawmill. The next day (our last day) was spent in going back to the French River. To do this we had to go some distance farther up stream, then to the left or northward, through a long narrow channel, at the end of which is located Little French Rapids.

Here is a portage of about a half mile. We stopped here for some fishing and had good success. The portaging took a little while, being the longest in the trip. This

was the only exception where a portage was longer than the two hundred yards mentioned earlier.

The rapids here is a small outlet from the French River to the Pickerel. We found ourselves in Deer Bay, a sort of "bottled up place" with a narrow outlet to the north, whither we proceeded and continued into another outer bay, and thence into the main French channel. Even here there is another water course. To the north lies an island, on the other side of which is the Narrows which is another channel of the river coming from the east. The island splits the stream. We turned to the left or west and after a short stretch we found ourselves again in Dry Pine Bay. The Narrows also empty into Dry Pine Bay, which we passed on our first day on the way to Meshaw Falls. The rest of our trip was to the outlet of Dry Pine Bay, down the River under the C. P. R. bridge and then to the landing of our outfitters. The rest of the afternoon was spent packing up, changing clothes and otherwise getting ready for our departure. In the evening after supper we paid our bill to the outfitter, crossed the water to the station and waited for the train.



Frogs' Legs for Supper
(The logs are about 8 inches in diameter—
for comparison)

This very interesting two-weeks' trip was made for the sum of \$85.00 per man, including railroad transportation, food supplies, the outfitter's bill, and the guide's bill; in fact, everything from the time of leaving Cleveland to our return, except the cost of meals, in Toronto, Buffalo, on the boat and on the train. It does not include any of the duffle or equipment such as, cameras, compasses, clothing, bedding or any personal equipment on which one can

spend as much or as little as desired. If an outing at a fixed camp without a guide is planned, it can be, and has been, enjoyed at a cost of from fifty-five to sixty-five dollars. Anyone interested in this locality and wishing further information can get particulars from The French River Supply Post, Harold Elder, proprietor, at Bigwood P. O., Ontario, Canada. Mr. Elder's service has always been highly satisfactory.

A PLACE TO CATCH FISH AND REST

There are many places in northern Wisconsin where one can fish, but the results, unless the gods are propitious, the angler an expert and fish biting (the mosquitoes not), are usually only a healthy, tired feeling and one or more of the time-worn tales of the Big One (?) that got away. At least, that has been my experience for several past years, particularly last year. After several days of this, in conversation with a number of other summer-resort-literature fishermen, whose experience in northern Wisconsin at various lakes was similar, we decided to move on and, finally, after several days' wandering, we arrived at Cabin Camp, Boy River, Minnesota, under charge of Mr. R. P. Brown, and located on the shore of one of the most beautiful lakes in Minnesota.

I am not going to attempt to describe the wonderful ten days we passed here, except to state that it is absolutely unlike the usual fishing camp in that the meals do not come out of tin cans but consist of excellent home-cooking.

The amateur angler can catch all the fish the law allows and the expert, with a barbless hook, may exercise his art to his heart's content. Besides, Boy Lake and Boy River, an excellent stream, there are numerous other lakes within easy distance, most of them connected by running streams, providing a variety of fish in these practically virgin waters.

If you were disappointed last year, or desire a real, honest-to-goodness, long-to-be-remembered vacation, I urge you to try Cabin Camp this year. As the accomoda-

tions are limited, however, I suggest reservations be made immediately.

J. F. BIEHN,

Chicago, Ill.

A LUETIC LAY

By JOHN GAY

(Eng. 1685-1732)

"I knew a yeoman, who for thirst of gain,
To the great city drove from Devon's plain
His numerous lowing herd. His herds he
sold

And his deep leathern pocket bagged with
gold.

Drawn by a fraudulent nymph, he gazed, he
sighed;

Unmindful of his home and distant bride.

She leads the willing victim to his doom

Through winding alleys, to her cob-web
room;

Thence through the streets he reels from
post to post

The vagrant wretch the assembled watch-
men spies,

He waves his hanger, and their poles defies.

Deep in the roundhouse, pent all night he
snores,

And the next morning, vain his fate
deplores;

Ah! hapless swain! unused to pains and ills,
Canst thou forgo roast beef for nauseous
pills?

How wilt thou lift to heaven thy eyes and
hands,

When the long scroll the surgeon's fees
demands?

Or else (Ye Gods, avert that worst disgrace)
Thy ruined nose falls level with thy face;
Then shall thy wife thy loathesome kiss
disdain.

And wholesome neighbors from thy mug
refrain."

[We progress, tho' slowly. We now, at
least, have sanitary drinking cups—and the
Arsphenamines. If the worst comes, there
are plastic surgeons and celluloid noses.—
ED.]

The cross-word puzzle game is a mental tonic,
giving pleasure and creating cheerfulness, and thus
stimulating the activities of mind and body.—Dr.
Herman N. Bundesen, Health Commissioner of Chicago.

Diagnostic Pointers

DIFFERENTIAL POINTS IN PULMONARY TUBERCULOSIS

If signs and symptoms point to the lungs, sputum negative and severe pain over deltoid, suspect malignancy.

If there is elastic tissue in a sputum, which gives a negative test on guinea pigs, you may have lung abscess, malignancy or actinomycosis.—DR. FREDERICK TICE.

NASAL SINUSES AND THE EYES

If the anterior part of the eye (conjunctiva, cornea, sclera and iris) is involved in an infectious process, look to the anterior nasal sinuses (maxillary frontal and anterior part of the ethmoid); if the posterior part (ciliary body, vitreous and optic nerve) look to the posterior sinuses (sphenoid and posterior ethmoid cells). If the upper nasal segment of the optic disc is "fuzzy" try the posterior ethmoid.—J. I. DOWLING.

TUBERCULOSIS

Localized, persistent rales below the clavicle do not *always* mean tuberculosis.

The x-ray is part of the process of inspection. You must palpate, percuss and auscultate the chest and examine the sputum before venturing a diagnosis.

Take a careful history last, so you may not be led astray in the examination.

Early tuberculosis is sometimes symptomless, signless and x-rayless and very hard to diagnose.—PRITCHARD, of Battle Creek.

ANGINA PECTORIS

The most important and pathognomonic symptom in angina pectoris is a sense of dread, oppression and impending death. This may appear with or without pain.—GILBERT.

PREGNANCY

The Phloridzin Test.—This test can be carried out on any woman whose urine is sugar-free.

The patient comes to the office fasting and voids urine, which is examined for sugar. If none is found, she is given a hypodermic injection of 2 mgm. of phloridzin and is ordered to drink 2 to 4 glasses of water. As soon as she can void, the

urine is tested for sugar, which will be found within 3 hours if she is in the first 3 months of pregnancy.

The dose must be *absolutely accurate* as a little more will always cause glycosuria and a little less will never cause it.

Ampules containing the proper dosage are put up by Schering and Glatz and *not one drop* of their contents must be lost in giving the test.—DR. WENZEL GAYLER, in *J. Mich. M. Soc.*, July, 1923. (Also DR. N. J. EASTMAN, in *J. Ind. M. A.*, August 15, 1924.)

PAIN IN ANGINA PECTORIS

Location: Substernal rather than precordial. Radiates to left shoulder, arm and sometimes to the hand. The only pain present may be in the left forearm or wrist.

Character: The pain may be intense but is never stabbing or colicky, but rather oppressive.

Occurrence: Commonly comes on after a full meal or after exercise, especially in the cold or wind.—GILBERT.

ARGYROL TAMPON REACTIONS

When argyrol tampons are used in the nose, they lose their color in the presence of pathogenic microorganisms. Other reactions denote the degree of severity of the sinus infection;

- + Decoloration.
- ++ Sneezing, with jelly mucus after irrigation.
- +++ Suffusion of the eyes.
- ++++ Chemosis and a ropy discharge.
- +++++ Aural reaction, with vertigo and tympanic congestion. General symptoms (the tamponade may make the patient sick in bed).

These possibilities should be explained to patients.—DR. J. I. DOWLING.

STAINING TREPONEMA PALLIDUM

Stain: Hugel's solution (formol 2 Cc., acetic acid 1 Cc., distilled water 100 Cc.), 4 parts; Ziehl's carbolfuchsin, 1 part.

Technic: Dry smear in air and fix in flame; add stain and let it act for 2 or 3 minutes, over flame; wash well and mount in balsam. Under oil immersion, the

treponemata appear a dark violet on a clear background.—**GUISEPPE SCAGLIONE**, Geneva, Italy.

SCURVY

Scurvy, in young children, must be distinguished from rheumatism, trauma, infantile paralysis, sarcoma, osteomyelitis, syphilitic epiphysitis, hemorrhagic nephritis, intussusception, rickets, nasal diphtheria and spondylitis. In bone cases, the x-ray findings are typical.—**DR. JACOB SOBEL**, in *Am. Jour. Surg.*

NORMALITY

A body in good running order is usually indicated by: alert expression; unobstructed breathing; clear, red tongue; steady nerves without restlessness—repose; cheerful disposition; good muscular coordination; no distress on ordinary exertion; proper weight for height, age and type.—**DR. HUGH CHAPLIN**.

DIABETES

In diabetes, it is the sugar in the blood that does the harm, not that in the urine. Frequent blood-sugar estimations should be made on all diabetics.—**DR. BERNARD FANTUS**.

GLYCOSURIA

Every patient who has sugar in the urine is not a diabetic. Have an estimation made of the blood sugar and study the case carefully, in a hospital if possible.

TUBERCULOSIS

In suspected tuberculosis, collect all sputum for 24 or 48 hours and examine these specimens by the antiformin method. If 6 or 8 of these specimens are negative, the patient probably has not tuberculosis.

—**DR. MORRIS LEWISOHN**.

The physical signs of tuberculosis are almost always present in the apices, though they are frequently not confined to these areas.—**DR. MORRIS LEWISOHN**.

GALL-STONES

Too much reliance should not be placed upon the x-ray in the early diagnosis of gall-stones. Of much greater value are the presence of (1) long-continued dyspepsia, of the flatulent type, not yielding to diet and simple remedies; (2) pain and tender-

ness in the upper or lower right quadrants, without symptoms of acute inflammation; and (3) remote symptoms, such as joint and muscular pains, arising from the gall-bladder as a focus of infection.—**A. E. MORTIMER WOLFF**, in the *Practitioner*.

PIN WORMS AND APPENDICITIS

In a series of 121 appendices removed at operation and subjected to routine laboratory examination, 22 were found to contain oxyuris vermicularis.—**DRS. HARRIS & BROWNE**, in *J. A. M. A.*

ABDOMINAL PAIN

Pain due to involvement of the abdominal viscera is sharp, colicky and paroxysmal in character, and frequently referred to the epigastrium; that due to peritoneal involvement is continuous, burning in character and referred to the site of the lesion.—**DR. B. LIPSHUTZ**, in *Med. Jour. & Rec.*

OCCIPITOPOSTERIOR POSITIONS

Occipitoposterior positions of the child in labor are dangerous to both mother and child and should be diagnosed early in labor, while it is still possible to perform rotation by manual manipulations. This requires a thorough and careful examination.—**DR. JOHN W. BIRK**, of Chicago.

FETAL MEASUREMENTS

There are postmature as well as premature infants. Any child over nine pounds in weight at birth is probably postmature. Measure the fetus and compare with pelvic measurements.

The distance from the pubic crest, inside the vulva, to the fundus (taken with a pelvimeter) multiplied by two, gives the height of the child.

Take the occipitofrontal diameter with a pelvimeter, add seven and divide by two for bi-parietal diameter.

The height of the fundus above the pubis, divided by 3.5 gives approximately the month of pregnancy. **DR. CHAS. B. REED**, of Chicago.

DYSMENORRHEA

Obstructive dysmenorrhea due to malposition does not exist, and cases due to organic causes are extremely rare. Most cases are purely functional in character and many have a neurotic basis.—**DR. P. B. BLAND**, of Jefferson Med. Coll.

Current Medical Literature

DIAGNOSING TUBERCULOSIS

In the *Bulletin of the Chicago Tuberculosis Sanitarium*, for November, 1924, is to be found a very interesting and practical article by Dr. Clarence L. Wheaton, of Chicago, on "History Taking in Cases of Tuberculosis," extracts from which are appended.

Remember the following points:

1. Take a careful history of your patient. Ask definite questions in a logical and regular sequence. Every patient should be asked whether during the years from fifteen to twenty-one he considered himself, or was considered by his parents, as of the strong and robust type, the thin or wiry type or of the delicate type. It is important to ask—not, "When did you first feel sick?" but, rather, "When did you last feel perfectly well?"
2. Remember the paramount importance of constitutional signs and symptoms. In most cases, except for a cough, which is usually present, the constitutional signs and symptoms are far more striking than local symptoms.
3. Remember that loss of weight must be satisfactorily explained. Every patient should be asked, first, "What is your maximum weight?"; second, "Your present weight?"; third, "What do you consider good average weight in health?"; fourth, if the patient has lost weight, "Over how long a period has this loss taken place, and how do you account for it?"
4. Inquire concerning loss of strength and energy.
5. Do not forget the importance of undue fatigue and ease of tire.
6. Continual or occasional evening fever must be explained. The thermometer is not used nearly as much as it should be. In the absence of other definite causes, if a patient is found to be running an afternoon or evening fever of 99 degrees or over, a tentative diagnosis of some such infection, or toxemia, as tuberculosis is justifiable.
7. Remember the importance of a subnormal temperature accompanied by a high pulse. This combination is an important one and is often caused by tuberculosis.
8. Remember that a hemorrhage is evidence of pulmonary tuberculosis until the contrary is proved. Failure to observe this rule is causing many tragedies and unnecessary deaths.
9. Bear in mind that pulmonary syphilis is not so uncommon as it is supposed to be.
10. Remember that early cases of exophthalmic goiter may simulate early pulmonary tuberculosis in every way.
11. Depend more on your thermometer, your history and constitutional signs and symptoms than you do on percussion and auscultation.
12. Remember to use your common sense. Bear in mind that it is a human being and not merely a pair of lungs that you are dealing with.

Do not forget the following:

1. Don't be in too much of a hurry.
2. Don't forget to strip the patient to the waist.
3. Do not expect to find marked signs in the lungs in every case.
4. Do not wait for positive sputum. Absence of proof is not proof of absence.
5. Don't forget that practically all pleurisy, wet or dry, of idiopathic origin, are tuberculous.
6. Don't forget to look elsewhere than the lungs. Make your routine physical examination as thorough as possible.
7. Don't base your diagnosis on x-ray evidence alone. The x-ray is a valuable adjunct to our means of physical examination but it should never take the place of our older, well known methods.
8. In adults do not place any value on the skin tuberculin test, whether positive or negative.
9. Don't forget that chronic bronchitis, influenza, bronchiectasis, emphysema, asthma and other chronic and subacute lung conditions still exist and will continue to exist, and that they often resemble pulmonary tuberculosis.
10. Don't forget that the reverse of the above is also true.

EPILEPSY A PSYCHONEUROSIS

In the February, 1925, number of *North-west Medicine*, Dr. R. B. Tracy, of Butte, Mont., gives his reasons for believing that cases of epilepsy not due to trauma or to demonstrable organic lesions are the result of psychic tensions stimulated by the emotions; the convulsions being nervous explosions which relieve the tension and produce comfort for the individual.

Believing that epilepsy is a psychogenic disease, Dr. Tracy recommends the use of psychoanalysis in its treatment and reports good results from this method in a number of cases.

ACCIDENTS DURING ANESTHESIA

Every man who has occasion to give anesthetics, even occasionally, would profit by reading the article entitled "Resuscitation During Anesthesia", by Dr. W. Wayne Babcock, of Philadelphia, in *Current Researches in Anesthesia and Analgesia*, for December, 1924. [Dr. Babcock's address is 2008 Walnut St., if you want a reprint. —Ed.]

The doctor emphasizes the point that, if you expect to save the occasional case that

goes wrong under anesthesia, you must familiarize yourself with the various methods of resuscitation *before* the trouble begins, and then see to it that everything that might *possibly* be needed is ready and all the people in the operating room instructed and drilled in their particular duties in case of accident, the same as we have fire drills in our schools.

The article is so concise and to the point that abstracting is impracticable without reprinting it entire. You should read the whole thing.

ALCOHOL

Whether or not the use of alcohol as an adjunct to social activities should be restricted and, if so, to what extent, is a subject to which everyone is entitled to an opinion, as an *individual*. As *physicians*, we are all vitally interested in any laws which restrict its use as a medicine.

Dr. Hobart Amory Hare, whose authority as a therapist no one will question, discusses the subject in his usual terse and illuminating style in the January, 1925, number of *Therapeutic Gazette*.

Dr. Sollman, in his "Manual of Pharmacology", states that its usefulness as a quick-acting stimulant in various forms of sudden circulatory collapse can not be doubted; and also that it has a direct food value and stimulates the digestion and absorption of food.

Drs. Cushing and Abraham Jacobi have also testified to the same effect in no uncertain terms. Particularly is its use recommended in septic cases.

Dr. Hare feels that the referendum vote taken by the *J. A. M. A.* was not wholly fair, in that it asked whether alcohol was considered "necessary" in medicine. While not *necessary*, it may be highly *advantageous*.

Alcohol is a stimulator of oxidation and, hence, in youth, when processes of oxidation are in full blast, it may prove harmful. In old age, however, when the fires of life burn low, or in other circumstances where like conditions obtain, its value can not be questioned.

We now realize that alcohol is not a true stimulant. It does not increase the force of the flow of blood. The sense of well-being and increased strength is due to supplying a source of energy in readily available form and to equalizing the circulation.

It is perfectly true that alcohol diminishes the activity of the mental processes, but in these days of nervous stress a mental sedative is sometimes of the highest value, and this drug frequently is employed with the happiest results, as a remedy for nervous insomnia.

Perfectly normal people do not fall victims to the liquor habit, and it is probably true that it is not alcoholism that produces degeneracy but that degeneracy produces alcoholism.

Dr. Hare believes that alcohol, in the form of good wine or whisky, is one of the most useful drugs we have.

HYOSCINE HYDROBROMIDE IN PARALYSIS AGITANS

In the *Johns Hopkins Hosp. Bull.*, for October, 1924, Dr. Leslie B. Hohman, of Baltimore, presents the results of his experience with hyoscine hydrobromide in the treatment of Parkinson's syndrome, following epidemic encephalitis.

Of the 18 cases treated, 6 were slightly, 5 definitely, and 7 markedly improved. This improvement included the mental as well as physical symptoms.

While the drug is considered as only palliative, it may be given for years without untoward symptoms or necessity for increasing the dosage, which varies from 1/150 to 1/50 of a grain, 4 times a day, by mouth or hypodermically.

INDICATIONS FOR TONSILLECTOMY

Dr. Otis Wolfe, of Marshalltown, Ia., in an article in the *E. E. N. & T. Monthly* for March, 1925, summarizes the indications for tonsillectomy as follows:

- 1.—Infection or inflammation of the tonsils and adenoids or of adjacent mucous membranes.
 - a.—Where there is obstruction to breathing or swallowing.
 - b.—Recurrent tonsillitis with chronic inflammation.
 - c.—Tonsils ragged and friable with pus in the crypts.
 - d.—Frequent colds—bronchial, laryngeal or nasal.
 - e.—Where cervical glands are involved following tonsillitis.
 - f.—Ear conditions. (Tonsils and adenoids involved in 95 to 98 percent of ear cases in childhood.)
- 2.—Focal Infections.—Remote or obscure conditions not directly connected with the tonsils and adenoids.

PROPHYLAXIS OF CHICKENPOX

Varicella, or chickenpox is usually so mild a disease that its prophylaxis has been neglected. In children's hospitals, however, where a quarantine may close up wards for many weeks, the prevention of secondary cases may be of importance.

Dr. A. A. Weech, of Baltimore, reported, in the *J. A. M. A.* for April 19, 1924, that he treated nine infants who had been exposed to the disease with intramuscular injections of 3 to 4.5 Cc. of serum from convalescents who had had the disease 10 to 20 days previously. In 8 of these infants, the disease did not appear, and in the ninth a very mild case developed after 22 days.

IRRADIATED FOODS

Cod-liver oil has long been recognized as a powerful reconstructant and promoter of healthy growth, and the reason why it has not been more widely used in the prevention of rickets and other conditions requiring the assimilation and retention of calcium is because of its nauseous taste.

Drs. Hary Steenback and Amy L. Daniels state, in the *J. A. M. A.* for April 11, 1925, that any foods which contain lipoids (and this includes practically all cereals, milk, meat and eggs) can be endowed with pronounced antirachitic properties by subjecting them to the action of ultraviolet light.

If this procedure proves generally successful in practice, it will open up large therapeutic possibilities.

COMFORTABLE POSITION FOR RECTAL CASES

The ordinary bed sags in the middle, so that a person lying supposedly flat on his back will really find the anorectal region at a lower level than the rest of the body. This position favors congestion and edema, causes discomfort or pain and delays healing.

Dr. J. F. Montagne, of New York, suggests, in the *J. A. M. A.* for April 4, 1925, that much comfort and benefit is obtained for these cases by removing the pillow from under the head and inserting one, cross-wise, under the lumbosacral region and buttocks and one under the thighs. The patient may lie on the back, abdomen or side.

If, for any reason, this arrangement is unsatisfactory, the foot of the bed may be raised on blocks until the pelvis is higher than the thorax.

IODINE IN GOITER

There has recently been a great deal of discussion of the giving of iodine for the prevention of goiter. Several communities in goiterous districts are now adding this substance to the city water supply, and some manufacturers are marketing table-salt containing small quantities of iodides.

Dr. Walter M. Boothby, of Rochester, Minnesota, believes that such measures are not without danger, and states his reasons in the *J. Indiana M. A.*, for January, 1925.

Dr. Boothby believes that iodine is a safe drug to give to patients who have no goiter, for the purpose of preventing its development, but that it is dangerous, even in small doses, when given to person who have adenomatous tissue in their thyroid glands. This latter condition can be determined only by a trained physician.

The doctor also states that goiter patients who show cerebral or gastrointestinal crises, and upon whom thyroidectomy is to be performed, can be placed in a much more favorable condition by giving 10 minims of Lugol's solution (Iodine, 5 Gm.; Potass. iodid., 10 Gm.; water, 100 Cc.), well diluted, 2 or 3 times a day for 2 or 3 weeks prior to operation.

OBSTETRICAL ANESTHESIA

At present the anesthetics most widely used in obstetrical practice are nitrous oxide-oxygen and chloroform.

Dr. Wilfred Pickles, of Providence, Rhode Island, sums up the relative merits of these

two anesthetics in *Anesthesia & Analgesia* for February, 1925.

Nitrous oxide-oxygen requires a bulky apparatus for its use, is rather expensive, and calls for the services of someone trained in its use. It is extremely safe, having no immediate or remote ill effects on mother or child, and produces narcosis sufficient for any obstetrical need.

Chloroform is simple to handle, requiring no bulky apparatus and is relatively cheap. To use it with safety requires even greater skill than does the use of nitrous oxide, and there is still danger of syncope and delayed poisoning, as well as of obstetrical complications.

When two methods offer equal safety to the patient, the one which is simplest and least expensive is preferable; but, to sacrifice safety to convenience and cheapness seems inexcusable.

PREOPERATIVE NARCOTICS AND MAGNESIUM SULPHATE

The practice of giving a narcotic some time previous to the induction of anesthesia in operative cases is now so general that a discussion of the subject is of great interest.

Based upon 65 carefully studied cases, Dr. M. S. Harmon, of Seattle, considers in *Anesthesia & Analgesia*, for February, 1925, the relative effects of morphine and atropine and morphine and scopolamine, both with and without the addition of 4 Cc. of a sterile solution of C. P. magnesium sulphate.

After a study of these cases, which he admits are too few to permit sweeping conclusions to be drawn, Dr. Harmon is satisfied that a preoperative narcotic shortens the time necessary for the induction of anesthesia and lessens the amount of anesthetic required; and that, if the narcotic is combined with magnesium sulphate, as outlined, there is greater postoperative comfort for the patient, less nausea and vomiting, and the amount of morphine required after the operation is materially reduced.

COD-LIVER IN RICKETS

The discovery that cod-liver oil contains, among other things, the vitamine A has re-established that important and valuable remedy in the estimation of physicians. The derogatory opinions maintained some years ago concerning this ill-smelling medicament have given place to its enthusiastic acceptance. Still, if it were possible to do away with the unpleasant features of the treatment and to prepare cod-liver oil in such a way as to retain its active antirachitic properties without the disagreeable ones, a great deal would be gained.

In *The Journal of Metabolic Research* (November-December, 1923, p. 467) Drs. Harry E. Dubin and Casimir Funk report that, by means of an acid extraction followed by saponification, obviating the necessity of handling large quantities of material, they have prepared a concentrate

from cod-liver oil which, in the crude state, is 2000 times more active than fresh cod-liver oil, both as regards the antirachitic and antiophthalmic vitamins.

Thus, 1,000 Gm. fresh cod-liver oil yields 0.5 Gm. crude active concentrate—a brown syrupy mass which, on standing, crystallizes in light yellowish-brown, needle-like crystals, radiating from a central point.

On eliminating cholesterol, the 0.5 Gm. concentrate is reduced to 0.1 Gm., a concentration of 1 in 10,000. Working with great care, it is possible to obtain a concentration of 1 in 15,000.

The findings of these authors were utilized in a study of clinical rickets undertaken by Louis Fischer at the Infirmerium and Nursery of the Heckscher Foundation, New York City (*Jour. of Metabolic Research*, November-December, 1923, p. 481). Dr. Fischer had occasion to examine 900 children sent to his institution for treatment and carried out particularly detailed and careful examination in 200, among whom there were 37 cases of rickets in varying degrees of severity. All of these children were put on a diet suitable for their age and their physical condition. After that, they were divided into three groups; the first was subjected to the action of sunlight, because a deficiency of sunlight had been found to be an etiologic factor in the production of rickets. The children in the second group were given fresh cod-liver oil; those in the third received the active concentrate prepared from cod-liver oil by Dubin and Funk.

Progress was controlled by frequent radiographic examinations, in addition to clinical observations. Typical healing was noted in all cases, although the most marked improvement was evident in those children receiving cod-liver oil or cod-liver oil concentrate in the form of 1-grain tablets. The latter are well tolerated, easily assimilated and as effective therapeutically as fresh cod-liver oil.

The conclusions arrived at by Dr. Fischer are as follows:

"As a result of our investigation, we are of the opinion that, in the management of rickets, every known therapeutic agent should be made use of. The best results are obtained under a treatment combining proper food, cod-liver oil and exposure to sunlight.

"In the numerous cases where fresh cod-liver oil is not tolerated, an active concentrate prepared from cod-liver oil, and free from the latter's disagreeable and objectionable features, may be used with success.

"We earnestly recommend that cod-liver oil therapy, whether one uses fresh cod-liver oil or a cod-liver oil concentrate, should be regarded as a prophylactic as well as a curative measure.

"If prophylactic treatment were universally instituted in all children, even as early as one month of age, rickets would in due course of time be a thing of the past.

H. J. A.

BURNS

All physicians have to treat burns and suggestions for the handling of severe cases are always of interest.

In severe burns, particularly in children and the aged, the first symptoms are those of shock. This stage persists for about twenty-four hours, and is followed by a period of two to four days with symptoms of toxemia. It is these general symptoms rather than the actual destruction of tissue which cause grave concern.

The Annals of Surgery, for February, 1925, contains a very thoughtful article dealing with this subject by Drs. I. S. Ravdin and L. K. Ferguson, of Philadelphia. These authors outline the following treatment:

The patient is undressed, put to bed and covered with a portable electric-light cabinet, in which the temperature is kept at 100° F.

The burned area is covered with gauze saturated with a 1/2-percent solution of procaine, to each ounce of which have been added 10 drops of 1-1000 adrenalin.

When the patient has reacted from the shock, all blebs are opened and all burned skin is removed. If the burn is of the third degree, a thorough *débridement* is performed under general anesthesia.

Large quantities of fluids are given by mouth or intravenously or both (never by hypodermoclysis), as the case seems to require.

Dressings consist of packs kept moist with physiological salt solution.

The diet should be fairly generous and consist of easily assimilable articles with a large percentage of carbohydrates to furnish available glycogen.

If the toxemia is grave, a large quantity of blood may be withdrawn and replaced by transfusion.

When the wound is covered with healthy granulation skin-grafting should be done, using Thiersch whole-thickness grafts.

STERILITY AND THE ENDOCRINES

The reproductive functions are so intimately bound up with the endocrine glands that a paper like that of Dr. Timothy F. Donovan, of Buffalo, in the *New York State J. of Med.*, for February 27, 1925, is very pertinent and interesting.

Dr. Donovan, speaking as a surgeon rather than as an endocrinologist, finds that there are many cases of sterility which are amenable to treatment with glandular extracts. After careful study, he is convinced that the glands most likely to be at fault are the ovaries, the thyroid or the pituitary, one or more of which may be affected.

The doctor goes into details as to the diagnosis of the various endocrine dysfunctions concerned and reports illustrative cases of ovarian, thyroid and pituitary sterility.

An interesting statement by Sir James Mackenzie is quoted, to the effect that

"scientific" work in medicine is not confined to laboratory work, but includes also clinical work which is done with accuracy and sincerity. This is especially applicable in endocrinological research.

This article is supplemented by an ample bibliography, and anyone who is interested in this subject would do well to write to Dr. Donovan, 250 Delaware Ave., Buffalo, for a reprint.

FIFTEEN BUSINESS COMMANDMENTS

[There is so much good stuff in these "Commandments", and so much of it can be applied to the *business* relations of the physician, that we feel it will be of value to all our readers.—ED.]

The Ben Franklin Club of St. Louis recently issued an attractive little bulletin containing "The Fifteen Commandments of Business", written by Judge Edwin B. Parker, chairman of the Committee on Business Ethics of the United States Chamber of Commerce. These fifteen commandments read as follows:

First. The foundation of business is confidence, which springs from integrity, fair dealing, efficient service and mutual benefit.

Second. The reward of business for service rendered is fair profit, plus a safe reserve commensurate with risks involved and foresight exercised.

Third. Equitable consideration is due in business alike to capital, management, employees and the public.

Fourth. Knowledge, thorough and specific, and unceasing study of the facts and forces affecting a business enterprise, are essential to a lasting individual success and to efficient service to the public.

Fifth. Permanency and continuity of service are basic aims of business, that knowledge gained may be fully utilized, confidence established and efficiency increased.

Sixth. Obligations to itself and society prompt business to strive unceasingly

toward continuity of operation, bettering conditions of employment, and increasing the efficiency and opportunities of individual employees.

Seventh. Contracts and undertakings, written or oral, are to be performed in letter and in spirit. Changed conditions do not justify their cancellation without mutual consent.

Eighth. Representation of goods and services should be truthfully made and scrupulously fulfilled.

Ninth. Waste in any form—of capital, labor, services, materials or natural resources—is intolerable, and constant effort will be made toward its elimination.

Tenth. Excesses of every nature—inflation of credit, overexpansion, overbuying, overstimulating of sales—which create artificial conditions and produce crises and depressions are condemned.

Eleventh. Unfair competition, embracing all acts characterized by bad faith, deception, fraud or oppression, including commercial bribery, is wasteful, despicable and a public wrong. Business will rely for its success on the excellence of its own service.

Twelfth. Controversies will, where possible, be adjusted by voluntary agreement or impartial arbitration.

Thirteenth. Corporate forms do not absolve from or alter the moral obligations of individuals. Responsibilities will be as courageously discharged by those acting in representative capacities as when acting for themselves.

Fourteenth. Lawful cooperation among business men and in useful business organizations in support of these principles of business conduct is commended.

Fifteenth. Business should render restrictive legislation unnecessary through so conducting itself as to deserve and inspire public confidence.—*Reprinted from The Inland Printer, Feb. 1925.*

New Books

MORTON: UROLOGY

GENITOURINARY DISEASES AND SYPHILIS. By Henry H. Morton, M.D., F.A.C.S. Fifth Edition, Revised and Enlarged. Illustrated. New York: Physicians and Surgeons' Book Company. 1924. Price \$10.00.

The present (fifth) edition of this excellent work has undergone a complete revision, with the assistance of six prominent medical educators, so that it is now brought strictly up to date.

Mechanically, the book is well made. The paper is of excellent quality, the type is clear and suitably spaced and subheads are freely used.

The subject matter is presented in a direct and practical manner and in a pleasing style, and descriptions of technic are such as can be readily followed.

Of exceptional merit are the illustrations which are used profusely and are beautiful and illuminating. Many superb color plates are presented, showing urethroscopic and cystoscopic appearances (in fact, it is a complete clinic in these procedures) as well as a number showing various other pathological conditions.

Every physician needs a good textbook on urology and the present volume seems a most excellent one for the general practitioner, as well as for the urologist.

HIRSH: UROLOGY AND SYPHILIS

A COMPEND OF GENITO-URINARY DISEASES AND SYPHILIS, INCLUDING THEIR SURGERY AND TREATMENT. By Charles S. Hirsch, M.D. Fourth Edition, Revised. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1925. Price \$2.00.

The fourth edition of this little manual has been fully revised and brought up to date, so that it fulfills its mission satisfactorily.

Compends are a great help, sometimes, but busy physicians should be very careful not to let their use take the place of the study of the larger and ampler textbooks on the various subjects.

RINGER: MEDICINE FOR NURSES

CLINICAL MEDICINE FOR NURSES. By Paul H. Ringer, A.B., M.D. Illustrated. Second Revised Edition. Philadelphia: F. A. Davis Company. 1924. Price \$2.50.

A nurse needs to know something about the symptoms which are likely to be present in various diseases, and what they mean; she should also have an understanding of the various complications which may arise and how she can watch for and guard against them.

She does not need to know the details of bacteriology, nor the physical signs by which the physician makes his diagnosis;

least of all should she be expected to decide upon a line of treatment.

This volume is a rearrangement of the lectures delivered by Dr. Ringer to the nurses at the Asheville Mission Hospital and, as he has kept the above principles clearly in mind, the book accomplishes its purpose nicely.

INTERNATIONAL CLINICS

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A.M., M.D. Vols. II, III and IV. 1924. Philadelphia: J. B. Lippincott Company. Price per volume is \$2.50.

For keeping up-to-date on the progress of medical science, the best way is, of course, a wide reading of the medical journals. The next best is to study the annual or periodical volumes which appear. This latter has some advantage over the former for, while the information is somewhat delayed, it is fully digested and one avoids much of the chaff.

The International Clinics are worthy exponents of this type of book and are not, as the title rather indicates, a study of clinical cases but rather a collection of essays on the most modern phases of the art and science of medicine by authorities in the various branches.

In these volumes will be found a full discussion of the Dick test for scarlatina, with color plates showing various types of reaction; full directions for establishing a physiotherapeutic clinic; endocrine disfunctions discussed; and the newest physiotherapy technic in intranasal diseases, as well as many other subjects.

FEER: DIAGNOSIS IN CHILDREN

THE DIAGNOSIS OF CHILDREN'S DISEASES. With Special Attention to the Diseases of Infancy. By Professor Dr. E. Feer. Translated by Carl Ahrendt Scherer, M.D., F.A.C.P. Philadelphia: J. B. Lippincott Co. 1925. Price \$7.00.

One of the greatest difficulties of the pediatrics is that his little patients can not talk and this is a serious handicap in diagnosis, as it deprives him of the help given by the subjective symptoms.

Dr. Feer, of Zurich, has done the general practitioner a marked service in giving him this excellent volume devoted entirely to diagnosing the diseases of infants and children; and Dr. Scherer has made a very satisfactory translation.

It is obvious that pictures are especially necessary in a book of this character, and the illustrations deserve especial commendations. A number of excellent color plates

are used, as well as a large number of photographs. In many cases normal conditions are shown side by side with abnormal ones, for contrast.

Any physician who is caring for sick babies and children at all will find this book a great help in his work.

PRACTICAL LECTURES

PRACTICAL LECTURES DELIVERED UNDER THE AUSPICES OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, BROOKLYN, N. Y. (1923-1924 Series). Illustrated. New York: Paul B. Hoeber, Inc. 1925. Price \$5.50.

Many physicians feel that they can not afford the time to attend medical society meetings, because the programs rarely contain matter which they can use in their daily work.

The Medical Society of Kings County, Brooklyn, N. Y., decided to offer a course of absolutely practical talks, intended for general practitioners, dealing with subjects of every-day interest and given by recognized authorities in various lines. These lectures are now published in the present volume.

Such familiar topics as "The Treatment of Pneumonia," "Appendicitis," "Surgical Diagnosis," "Office Gynecology," "Backache," "Everyday Bacteriology," "Medical Psychology," and many others of the same sort are dealt with in a clean-cut and illuminating manner. Illustrations are freely used.

To sit down in the evening with this book would be almost like going to a meeting where many of the most competent men in the profession discussed the subjects in which you are most interested.

KAHN: TEST FOR SYPHILIS

SERUM DIAGNOSIS OF SYPHILIS BY PRECIPITATION. Governing Principles, Procedure and Clinical Application of the Kahn Precipitation Test. By R. L. Kahn, M.S., D.Sc. Baltimore: Williams & Wilkins Company. 1925. Price \$3.00.

Much interest has been manifest of late in the Kahn precipitation test for syphilis, because it appears to offer a procedure for diagnosis which is equal to the Wassermann test in accuracy, while being much simpler in performance.

In this volume, Dr. Kahn has gathered together under one cover all the material which he has published on this subject.

Here you will find the history of the test, the fundamental principles, upon which it rests, and also technic and clinical applications.

There is a good bibliography and index, and charts and tables are freely used.

HORSLEY: OPERATIVE SURGERY

OPERATIVE SURGERY. By J. Shelton Horsley, M.D., F.A.C.S. Illustrated. Second Edition. St. Louis: The C. V. Mosby Co. 1924. Price \$12.50.

There are two classes of surgical textbooks: the systems of surgery in which diagnosis, prognosis, pathology and everything bearing upon the subject is discussed; and the operative surgeries, in which the entire attention is focused upon the technic of the operation itself. The present volume belongs to the latter class, and its popularity is evidenced by the appearance of a second edition three years after the first.

The book is well gotten up and freely illustrated. Descriptions of technic are clear and direct, and cuts and diagrams are used to impress the various steps of different operations.

An excellent aid to the young surgeon who is mastering technic, and to the more experienced one who wishes to refresh his mind upon some point in connection with an operation not recently performed.

ROSE: PHYSICAL DIAGNOSIS

PHYSICAL DIAGNOSIS. By W. D. Rose, M.D. Fourth Edition. Illustrated. St. Louis: The C. V. Mosby Co. 1924. Price \$8.50.

The popularity of this text is suggested by the fact that a fourth edition is needed seven years after the first.

The author lays especial stress on the physical examination of the lungs, circulatory organs and abdomen.

Illustrations are freely used to elucidate the text.

Those who have one of the earlier editions will scarcely need to discard them for this, unless they desire to study the finer details of modern technic in cardiac diagnosis with the polygraph and other instruments of precision.

BICKHAM: OPERATIVE SURGERY

OPERATIVE SURGERY. Covering the Operative Technic Involved in the Operations of General and Special Surgery. By Warren Stone Bickham, M.D., F.A.C.S. In six volumes. Vol. VI. Philadelphia and London: W. B. Saunders Co. \$10.00 per volume.

The sixth and last volume of this system of Operative Surgery is virtually a combination of two textbooks on operative gynecology and operative obstetrics. The first two chapters, however, deal with operations on the seminal vesicles and ejaculatory ducts and on the prostate, the gynecic and obstetric operations being distributed over twelve chapters.

The fifteenth chapter deals with operations on the newborn and the sixteenth and last chapter takes up "loose ends" under the title "Operations for Deformities and Disabilities not included in Preceding Chapters."

This volume is a worthy mate to the preceding ones, which have been reviewed in CLINICAL MEDICINE. The entire work is before us and we have no reason to change a word we have said when we had studied the first volume.

The author has not relaxed and has kept up the high standard he has set for him-

self to the very end. A great American work on Surgery, the product of one man's brain and energy, has enriched our literature, and for years to come will prove a fountain of stimulating knowledge even to expert surgeons. A small volume contains the general index. It leaves nothing to be desired.

We congratulate and thank the W. B. Saunders Co. for their share in the production of this masterpiece.

G. M. B.

CAMERON: DIAGNOSIS

DIAGNOSIS BY TRANSELLUMINATION. A Treatise on the Use of Transillumination in Diagnosis of Infected Conditions of the Dental Process and Various Air Sinuses with a Chapter on the Electric Test for Pulp Vitality. By W. J. Cameron, Ph.G. Published by Cameron's Publishing Co., 110 W. Oak St., Chicago. 1924. Price \$2.00.

Transillumination is coming into constantly wider use in diagnosing pathology in the nasal sinuses and teeth.

This little volume of 64 pages covers the subject fairly well, especially with regard to the examination of the teeth.

The book is well gotten up and profusely illustrated and will be of especial interest and value to dentists.

KERLEY & GRAVES: PEDIATRICS

THE PRACTICE OF PEDIATRICS. By Charles G. Kerley, M.D. Third Edition, Revised and Reset. Illustrated. Philadelphia: W. B. Saunders Co. 1924. Price \$9.00.

In the present (third) edition of this well-known and valuable textbook, which needs no extended introduction to the medical public, Dr. Gaylord Willis Graves, of New York, is associated with Dr. Kerley as co-author.

The book has been entirely revised and reset. Material which had become obsolete has been eliminated and new material on such subjects as scurvy, rickets, endocrine disorders, tetany, acidosis and many others have been added to bring the subject up to date. The newer diagnostic methods and therapeutic procedures are fully considered.

This is one of the standard and reliable one-volume works on pediatrics.

INTERNATIONAL MEDICAL ANNUAL

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. 1924. (42nd Year.) New York: William Wood and Company. Price \$5.00.

We all need books for quick reference when time is short and we cannot search through the larger textbooks. This is a good one and up-to-date.

The contributors to the present volume are some of the most prominent men in Great Britain, America and France and the articles are authoritative.

The material is arranged alphabetically, by diseases or conditions, and is amply il-

lustrated with cuts and colored plates. There is a very complete index.

Even if one has several books of this general type, this one will be an addition to one's library.

MARTINET: DIAGNOSIS

CLINICAL DIAGNOSIS. Case Examination and the Analysis of Symptoms. By Alfred Martinet, M.D. Authorized English Translation from the Third, Revised and Enlarged Edition. By Louis T. deM. Sajous, B.S., M.D. Illustrated. Complete in two Royal Octavo Volumes. Vol. I, Physical and Laboratory Diagnosis. Vol. II, Analysis of Symptoms. Philadelphia: F. A. Davis Company. 1922. Price \$7.00 per volume.

The author has written this book upon the thesis that a diagnosis involves two separate stages: the collection of a series of symptoms and signs, by means of the history and the physical examination; and, the synthetic application of the data so collected, to the end of obtaining a clear idea of what is going on in the patient.

He further states that there are four factors in a diagnosis:

- 1.—The clinical, based on the features of a certain type of case.
- 2.—The lesional, dealing with the seat of the pathology.
- 3.—The functional, showing how the symptoms are produced.
- 4.—The etiological, dealing with the specific cause.

On this basis, Dr. Martinet sets out to teach diagnosis from a broad standpoint.

The first volume deals with the details of physical examination and the second with the analysis and interpretation of symptoms.

PAGE & BRISTOW: FRACTURES

THE TREATMENT OF FRACTURES IN GENERAL PRACTICE. By C. Max Page, D.S.O., M.S. and W. Rowley Bristow, M.B., B.S., F.R.C.S. London: Henry Frowde and Hodder & Stoughton. 1925. Price \$4.00.

A large percentage of fractures are first seen by the general practitioner, who carries most of these cases to a more or less successful conclusion.

There are a number of excellent and very complete treatises upon the treatment of fractures, but it is believed that this compact and practical manual will fill a distinct need.

The authors have drawn upon their extensive experience and upon the literature, when necessary, to compile a collection of suggestions for the diagnosis and treatment of the more ordinary types of fractures by the general practitioner using methods and apparatus which are simple and readily available almost anywhere.

Long discussions of the relative merits of different methods and descriptions of complicated operative technic have been omitted. Cuts, diagrams and radiographs are freely used.

The book is well made, convenient in size (it will go into the pocket of an overcoat comfortably) and should prove a great and valuable assistant to medical students and practitioners.

MYERSON: PEPLESSNESS

WHEN LIFE LOSES ITS ZEST. By Abraham Myerson, M.D., Professor of Neurology, Tufts College Medical School, Boston, Mass. (*Mind and Health Series*), Little Brown & Co. 1925. Price \$1.75.

We all have seen people who were not distinctly or definitely ill in any organic sense, but who had, none the less, "lost their grip"; whose keen interest in life and its joys and sorrows, its strivings and responsibilities, seemed to have slipped; who had, in the vernacular, "lost their pep." Dr. Myerson calls this condition anhedonia.

Many diagnoses of neurasthenia, psychasthenia and the like have been made during recent years, but the doctor says that many, if not most, of these are cases of anhedonia.

He describes the symptoms clearly and accurately and goes into the etiology rather fully. The malady is, essentially, a loss of the keenness and power of desire and, with it, a loss of the ability to experience satisfaction.

Knowing the etiology we should be able to apply prophylactic measures to the rising generation, but he has little that is concrete to offer regarding the treatment of confirmed anhedonics.

The book is stimulating and interestingly written and well worth the study of any physician.

FAIRBAIRN: OBSTETRICS

GYNECOLOGY WITH OBSTETRICS. A Text-book for Students and Practitioners. By John S. Fairbairn, M.A., B.M. London: Oxford University Press. 1924. Price \$8.00.

No man can be a competent obstetrician without a wide knowledge of gynecology, yet these two subjects, so intimately connected in practice, are usually treated separately in textbooks and lectures.

Dr. Fairbairn, who has had many years' experience as a lecturer and clinical teacher, has wisely combined the two subjects in one excellent and scholarly volume.

A considerable prologue is devoted to a review of the history of these subjects and a discussion of their relation to general medicine, and the discussion of the anatomy, embryology and physiology of the female organs of generation and the processes of reproduction is very full. This is well, because any attempts at prevention of obstetrical accidents and anomalies must be based on a detailed knowledge of physiology.

Much more space than is customary has been devoted to the medico-legal aspects of these subjects and to their bearing upon the general problems of public health and preventive medicine.

Long and detailed discussions of pathology, instruments and complicated operative

technic, in rare conditions, have been omitted, leaving these points to be acquired by clinical practice in the amphitheater and lying-in room.

The table of contents is unusually full and the index is satisfactory.

There are few volumes available which will give one a sounder or more adequate basis for the practice of obstetrics and gynecology than this one, and the fact that it represents the experience and views of one capable man adds to its coherence and value.

WEBB & RYDER: TUBERCULOSIS

RECOVERY RECORD FOR USE IN TUBERCULOSIS. By Gerald B. Webb, M.D. and Charles T. Ryder, M.D. Second Edition. Revised. New York: Paul B. Hoeber, Inc. 1925. Price \$2.00.

Tuberculosis is one of the most chronic of diseases and, in order to obtain an arrest or cure of this malady, the physician must have the intelligent and unremitting co-operation of the patient.

The role played by rest in the treatment of tuberculous disease is well recognized, and Dr. Webb is one of its foremost exponents.

The present volume is an extremely valuable aid in the handling of tuberculous patients. The first eighty pages are devoted to information and instruction for these patients, written in a bright, clear and hopeful style which can hardly fail to be very helpful. The rest of the book consists of charts on which the patient is to keep a daily record of his pulse, temperature, weight and other matters which give necessary information to the physician in planning his campaign against the enemy.

Every tuberculous patient should have one of these books.

KIDD & SIMPSON: GONORRHEA IN THE FEMALE

COMMON INFECTIONS OF THE FEMALE URETHRA AND CERVIX. By Frank K. Kidd, M.A., M.Ch. and A. Malcolm Simpson, B.A., M.B., D.P.H. London: Oxford University Press. 1924. Price \$2.50.

Much has been written on the treatment of gonorrhea in the male, but, when this disease occurs in the female, it has been relegated to a small section of the works on gynecology. The subject now has a book to itself.

Based upon fifteen years' experience in organizing and conducting a clinic for the treatment of women with gonorrhea, at the London Hospital, the authors have given us a little volume dealing with the subject, from the diagnosis by physical and laboratory methods to the treatment of all the possible remote complications.

There are chapters dealing with ophthalmia neonatorum and with the treatment of gonorrhea in female children, as well as with venereal prophylaxis for male and female.

This book deserves a place in the library of every general practitioner and gynecologist.

LUCAS & STEVENS: BOOK OF RECEIPTS

THE BOOK OF RECEIPTS. By E. W. Lucas, C.B.E., and H. B. Stevens, O.B.E. Twelfth Edition. Philadelphia: P. Blakiston's Son & Co. 1924. Price \$4.00.

It is difficult to describe the very many applications to which this book can be put. It contains a Veterinary Materia Medica with prescriptions illustrating the employment of drugs; a pharmaceutical formulary for the manufacture of proprietary articles, toilet preparations, dietetic articles, household specialties, etc.; a photographic formulary and a synopsis of practical methods employed in the examination of urine, milk, potable waters, sputum, etc. It, also, contains numerous chemical and other tables for pharmacists, manufacturers, physicians and others.

BOYLE & HEWER: "ANESTHETICS"

PRACTICAL ANESTHETICS. By H. Edmund G. Boyle, O.B.E., and G. Langton Hewer, M.B., B.S. Third Edition. London: Henry Frowde and Hodder & Stoughton. 1923. Price \$2.00.

A brief and practical manual for the physician who gives anesthetics from time to time and wants to do so intelligently.

The advantages and disadvantages of various methods of anesthesia, both general and local, are stated, together with the details of the technic of administering the various drugs.

The preparation and after-treatment of the patient are considered, as well as the subject of blood pressure and pulse reactions during anesthesia.

The book is hardly exhaustive enough for the professional anesthetist, but for the man who gives an occasional anesthetic it is invaluable and should find a place in the library of every general practitioner.

BARKER: CANCER

CANCER. How It Is Caused; How It Can Be Prevented. By J. Ellis Barker. New York: E. P. Dutton & Co. 1924. Price \$3.00.

This is a book by a layman who took up the study of the subject because a number of his relatives had died of cancer, but Sir W. Arbuthnot Lane states, in his introduction, that he believes the book has great scientific value.

The author believes that carcinoma and sarcoma are wholly unlike in their etiology, and deals with the former exclusively. He is convinced (and backs up his belief with ample reference to recognized authorities and logical arguments) that cancer is due to chronic poisoning, especially from the bowels, and to vitamine starvation—a disease due to the conditions of modern civilization and to sophisticated foods—and that it is wholly preventable by proper methods of living.

The book can be profitably read and studied by laymen as well as by physicians.

HIRST: OBSTETRICS

MANUAL OF OBSTETRICS. By John Cooke Hirst, M.D. Second Edition, entirely reset. Philadelphia and London: W. B. Saunders Company. 1924. Cloth \$4.50.

This manual is a companion volume to the author's large textbook and is intended to be used for refreshing the mind upon the points of technic used in daily practice, when time does not suffice for consulting the more complete works. It serves its purpose very well.

The text is shorn of all useless verbiage and is amply illustrated with cuts and photographs which present practical points in diagnosis and procedures. It does not deal with embryology or pediatrics, but with the preparation for, and care of, the woman in labor.

DuBOIS: BASAL METABOLISM

BASAL METABOLISM IN HEALTH AND DISEASE. By Eugene F. DuBois, M.D. Illustrated. Philadelphia and New York: Lea & Febiger. 1924. Price \$4.75.

The subject of basal metabolism has been widely discussed recently, but much of the literature is of interest only to laboratory workers and physiologists. A book like this which brings the subject into the realm of clinical medicine will be welcomed by physicians and students of dietetics.

This volume gives enough attention to the fundamentals of estimating basal metabolism to make the subject clear, but most of the stress is laid upon the application of the findings in the maintenance of health and the cure of disease.

Every physician can read this book with profit to himself and to his patients.

HALL: EPIDEMIC ENCEPHALITIS

EPIDEMIC ENCEPHALITIS. By Arthur J. Hall, M.A., M.D. (Camb.), F.R.C.P. (Lond.) Illustrated. New York: William Wood & Company. 1924. Price \$3.75.

WALTERS: PULMONARY TUBERCULOSIS

DOMICILIARY TREATMENT OF PULMONARY TUBERCULOSIS. By F. Rufenacht Walters, M.D., B.S., M.R.C.P. (Lond.), F.R.C.S. (Eng.) Second Edition. New York: William Wood & Company. 1924. Price \$4.00.

RAVETLLAT: BACTERIA DE LA TUBERCULOSIS

LA BACTERIA DE LA TUBERCULOSIS. Por Joaquín Ravetllat y R. Pla y Armengol. (The Tuberculosis Bacterium. English summary at the end.) Publicaciones del Instituto Ravetllat-Pla. Barcelona: Tipografía Catalana. 1924.

TEN POST-GRADUATE LECTURES

TEN POST-GRADUATE LECTURES DELIVERED BEFORE THE FELLOWSHIP OF MEDICINE AT THE HOUSE OF THE ROYAL SOCIETY OF MEDICINE, 1919-1920. With a preface by The Right Hon. Sir Clifford Allbutt, P.C., K.C.B., M.D., F.R.S. New York: William Wood & Co. 1922. Price \$3.50.

YSANDER: MORPHOLOGY AND MORPHOGENESIS

STUDIES ON THE MORPHOLOGY AND MORPHOGENESIS OF HUMAN THORACOPAGIC MONSTERS WITH SPECIAL REFERENCES TO THE MALFORMATION OF THE HEART. Inaugural Dissertation by Frederik Ysander. Illustrated. Upsala: Almqvist & Wiksells Boktryckeri -A.-B. 1924.

COOMBS: RHEUMATIC HEART DISEASE

RHEUMATIC HEART DISEASE. By Carey F. Coombs, M.D., F.R.C.P., Lond. Illustrated. New York: William Wood and Company. 1924. Price \$4.50.

GURD: INFECTION

INFECTION, IMMUNITY AND INFLAMMATION. A Study of the Phenomena of Hypersensitiveness, Tolerance, and Their Relationship to the Clinical Study, Prophylaxis and Treatment of Disease. By Fraser B. Gurd, B.A., M.D., C.M., F.A.C.S. St. Louis: C. V. Mosby. 1924. Price \$5.00.

SHEARD: ANAEMIA

CONTRIBUTION TO THE STUDY OF PERNICIOUS ANAEMIA AND APLASTIC ANAEMIA. By Arthur Sheard, M.D. New York: William Wood and Company. 1924. Price \$2.50.

SMITH: INFANCY TO CHILDHOOD

FROM INFANCY TO CHILDHOOD; THE CHILD FROM TWO TO SIX YEARS. By Richard M. Smith, M.D. Boston: Atlantic Monthly Press. 1925. Price \$1.25.

MacCALLUM: PATHOLOGY

TEXT-BOOK OF PATHOLOGY. By W. G. MacCallum. Illustrated. Philadelphia: W. B. Saunders Company. 1924. Price \$10.00.

BAINBRIDGE: MILITARY MEDICINE AND PHARMACY

REPORT ON SECOND INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY; Rome, May-June, 1923. By Commander William Seaman Bainbridge, M.C. Reprinted from Military Surgeon. Illustrated. Washington, D. C. 1925.

LEWIS: DISORDERS OF THE HEART BEAT

CLINICAL DISORDERS OF THE HEART BEAT: A HANDBOOK FOR PRACTITIONERS AND STUDENTS. By Thomas Lewis, M.D., F.R.S., D.Sc., F.R.C.P., C.B.E. Illustrated. Fifth Edition. London: Shaw & Sons. 1920.

FLEXNER: MEDICAL EDUCATION

MEDICAL EDUCATION: A COMPARATIVE STUDY. By Abraham Flexner. New York: Macmillan Company. 1925. Price \$2.50.

ROCKEFELLER FOUNDATION: MEDICAL EDUCATION

METHODS AND PROBLEMS OF MEDICAL EDUCATION. Second Series. From the Division of Education The Rockefeller Foundation. New York. 1924.

ELLIOT: GLAUCOMA

TREATISE ON GLAUCOMA. By Robert Henry Elliot, M.D., B.S. (Lond.), Sc.D. (Edin.), F.R.C.S. (Eng.) (Oxford Medical Publication.) Second Edition. Illustrated. London: Henry Frowde and Hodder & Stoughton. 1922. Price \$8.00.

BUNDY: ANATOMY AND PHYSIOLOGY

TEXTBOOK OF ANATOMY AND PHYSIOLOGY FOR TRAINING SCHOOLS AND OTHER EDUCATIONAL INSTITUTIONS. By Elizabeth R. Bundy, M.D. Fifth Edition Revised and Enlarged. Illustrated. Philadelphia: Blakiston's Sons & Co. 1923. Price \$2.50.

COTONI: PNEUMOCOCCUS

THE PNEUMOCOCCUS AND PNEUMOCOCCAL AFFECTIONS. By L. Cotoni, C. Truche, and Mlle. A. Raphael. English Edition by D. S. Page, M.A., M.B., and Eva Morton, M.R.C.S. (Eng.) Illustrated. London: John Bale, Sons & Danielsson, Ltd. 1924.

U. S. PUBLIC HEALTH SERVICE: REPORT

ANNUAL REPORT OF THE SURGEON GENERAL OF THE U. S. PUBLIC HEALTH SERVICE OF THE UNITED STATES FOR THE FISCAL YEAR 1924. Washington: Government Printing Office.

HEAD: TUBERCULOSIS

CONCEALED TUBERCULOSIS OR "THE TIRED SICKNESS": A CLINICAL STUDY UPON THE EXHAUSTION TYPE OF HIDDEN TUBERCULOUS INFECTIONS. By George Douglas Head, B.S., M.D. Philadelphia: Blakiston's Sons & Co. 1924. Price \$2.00.

ASCHOFF: PATHOLOGY

LECTURES ON PATHOLOGY. By Ludwig Aschoff, M.D. Illustrated. New York: Paul B. Hoeber, Inc. 1924. Price \$5.00.

Medical News

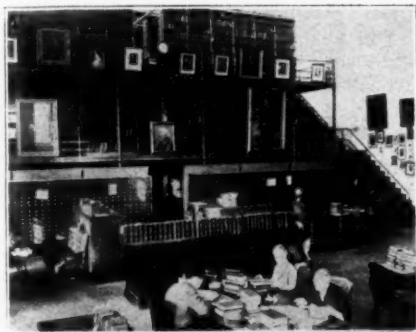
MOTOR TOURIST CAMP FOR NEW YORK CITY

On May 2, 1925, a Camp comprising forty acres, for motor tourists, was opened at the junction of Boston Post Road and Baychester Ave., New York City.

The location is within thirty minutes of Times Square by rapid transit, with a station at the Camp entrance.

All conveniences are provided for those using the Camp, including mail service and police protection.

Those who are planning a trip East this summer should write to Henry Modell, 191 Fulton St., New York City, for particulars.



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LARGEST MEDICAL LIBRARY IN THE WORLD

Eight hundred and one thousand, eight hundred and eighty-seven volumes now contained in the United States Army Medical Library, making it the largest medical library in the world. The library contains new and old books, some printed when printing was in its infancy. Many of the books and manuscripts are priceless and are only exhibited on rare occasions. Photograph shows a general view of the library of the Army Medical School, Washington, D. C.

COURSE IN PUBLIC SPEAKING

The average physician is no expert as an orator, and that is to his disadvantage. The Norwegian-American Hospital, 1044 N.

Francisco Ave., arranged for a course of instruction in public speaking for doctors, as was announced at the annual staff meeting, on May 5, 1925. Write to Dr. Harry Noskin, at the hospital, for particulars.

At this meeting, Dr. Calvin Brown was elected president of the staff for the ensuing year. Dr. Noskin continues as director of clinics.

The Clinical Staff Conferences as noted in this journal for April, 1925, are suspended until September 15. Last year, there were 137 conferences, with an average attendance of 17. One hundred and thirty-six different men attended.



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HOME BURNED TO PREVENT SPREAD OF SMALLPOX

Fourteen children, two adults, a dozen chickens and three kittens were made homeless when this house, a frame building, located just outside the Capital, was burned to the ground (March 18, 1925) to prevent the spread of smallpox. One adult is already suffering with the disease and the

others are in quarantine. It is the first time it has ever been necessary to burn down a home for such a reason.

force treatment. Both men and women are subject to the working of the measure.—*United States Public Health Service.*



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WHAT HAPPENS TO A MAN'S CLOTHING WHEN LIGHTNING STRIKES HIM

A suit of clothes worn by a man who was struck by lightning while taking shelter beneath a tree during a thunder storm. One of the treasured relics of the museum of the Royal College of Surgeons, in Lincoln's Inn, London.

STRINGENT HEALTH RULE ENFORCED BY UTAH CITY

The Salt Lake City authorities have been making a systematic effort to quarantine all men and women found under circumstances which give rise to a reasonable suspicion that they have a venereal disease. Under this rule, any situation which will warrant a reasonable inference that the persons are engaged in prostitution or promiscuity provides legal sanction for compelling an examination, and, if an infection is shown, to establish a quarantine and en-

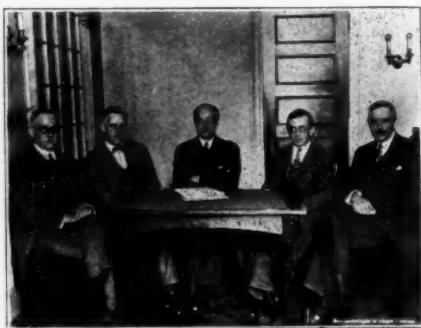
CHROMIUM PLATING

Dr. Colin G. Fink, of Columbia University, has developed a method for plating steel articles with chromium which is much more durable than nickel plating and will not tarnish. If this proves practical, it should add to the life and usefulness of surgical instruments.

NEW MEDICAL FACILITIES

During the month of May, ground was broken on the Lake Shore of Chicago for the first building of the McKinlock Memorial Campus, which will be the Medical Department of Northwestern University, and also for the new Medical Buildings of the University of Chicago, on the South Side.

When this construction is completed, it will place Chicago in the front rank of the nation's medical centers.



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RESEARCH IN TUBERCULOSIS

The National Tuberculosis Association has formed a Research Committee of five men who are especially qualified in various branches of the work. These are (from left to right): Dr. Chas. J. Hatfield, of Phipps Institute, Philadelphia, Dr. Paul A. Lewis, Dr. Charles White (Chairman), of the U. S. Public Health Service, Dr. Allen K. Krause, of Johns Hopkins, and Dr. Lindsay Williams.

Send for This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE will gladly forward requests for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use the numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

- | | |
|---|---|
| R- 22 Biological Products for Human Use
—With Indications for Use, Dosage,
Price List, etc. Gilliland Labora-
tories. | R- 98 Peptone Solution. As an Aid in
Immunization and Desensitization.
Armour & Co. |
| R- 26 Iodine vs. Toxins. 12-page booklet.
Burnham Soluble Iodine Co. | R-101 Surgical Instruments, Equipment
and Supplies for Physicians and
Hospitals. A. S. Aloe Co. |
| R- 27 Chlorine—Its Important Role in
Therapeutics. 12 - page booklet.
Chlorine Products Co. | R-149 Continental Scale Works. 24-page
booklet. Continental Scale Works. |
| R- 29 Oral Health, and the Relation of
Diseases of the Teeth and Gums
(Pyorrhea) to Diseases of the Body.
24-page booklet. Dentinol & Pyor-
rhocide Co. | R-155 Bilival. 4 - page folder. Ernst
Bischoff Co. |
| R- 30 Helping the Cell to Help Itself. 32-
page booklet. Alkalol Co. | R-194 Ninth Edition of E. S. I. Co.,
Catalog. 80 pages. Electro Surgi-
cal Instrument Co. |
| R- 31 Romance of Digitalis—The Story of
Its Discovery. 12 - page booklet.
Hoffman-LaRoche Chemical Works. | R-198 Pluto Water. Its Medicinal Values.
16 - page booklet. French Lick
Springs Hotel Co. |
| R- 37 Microscopes and Biological Ap-
paratus. "B." 172 pages. Eimer
& Amend. | R-227 The Doctor's Factotum. Arlington
Chemical Co. |
| R- 51 Treatment of Syphilis. 32 - page
booklet. Dermatological Research
Laboratories. | R-237 Information for the Medical Profes-
sion about Bovinine. 36-page book-
let. The Bovinine Company. |
| R- 53 The Physician's Plea. The Abbott
Laboratories. | R-239 The Treatment of Sexual Impotence.
16-page booklet. Astor Chemical
Corp. |
| R- 58 A Symposium on Yeast. 24-page
booklet. Fleischmann Co. | R-255 Lunosol, by Herman Hille, Ph.D.
16-page booklet. Hille Laboratories. |
| R- 71 Goiter Special. 4 - page folder.
Columbus Pharmacal Co. | R-264 Phosphorized Cod-Liver Oil. 4-page
folder. Borchardt Malt Extract Co. |
| R- 92 New Light on an Old Remedy. 12-
page booklet. Century National
Chemical Co. | R-267 For the Daily Practice. 14-page
booklet. Battle & Company. |
| | R-268 Supporters, Trusses and Elastic
Bandages. 16-page booklet. Hall
& Cary Weaving & Belting Co. |

- R-271 Pharmaceutical Preparations of Established Merit. 11-page booklet. E. Bilhuber, Inc.
- R-281 Enesol. Specific Arsenico-Mercurial Treatment of Syphilis. 32-page booklet. E. Fougere & Co.
- R-284 Terraline and Its Combinations. 4-page folder. Hillside Chemical Co.
- R-285 Malted Milk—The Best Medium for Barium Suphate Suspension in Roentgenologic Diagnosis. Horlick's Malted Milk Co.
- R-287 The Intravenous Treatment of Malaria, by B. S. Wyatt, M.D. 4-page reprint. Intravenous Products Co. of America, Inc.
- R-306 Letters-in-Evidence from Physicians. Philo Burt Mfg. Co.
- R-319 Seventh Edition 1924 Catalog. 239-page booklet. Geo. A. Breon & Co.
- R-321 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.
- R-375 Advantages of Lipoiodine Ciba. 8-page booklet. Ciba Company.
- R-378 The Heart and Its Disorders. 36-page booklet. Fellows Medical Mfg. Co.
- R-393 The Betzco Line. 1925 catalogue. Frank S. Betz Company.
- R-414 Habit - Time. 24 - page booklet. Deshell Laboratories.
- R-434 Safe Sedation. 12-page booklet. John B. Daniel.
- R-438 How to Get Vitamins in Your Daily Diet. 16-page booklet. Ralston Purina Company.
- R-439 Naftalan. 10-page booklet. Ft. Dearborn Drug & Chemical Co.
- R-440 Burdick Light Bath Therapy. Bulletin No. 20. 16-page booklet. Burdick Cabinet Co.
- R-441 A Contribution to the Treatment of Nervous Sexual Disorders with Testogan and Thelygan, J. Lewinski, M. D., Berlin. 4 - page folder. Cavendish Chemical Co.
- R-442 Progressive Medicine, May, 1925. 16-page booklet. Drug Products Co.
- R-443 Dry Milk in Infant Feeding, by Roger H. Dennett, B.S., M.D., New York City. 16-page booklet. Dry Milk Co.
- R-444 Barnstead Water Distilling Apparatus. 16-page booklet. Eimer & Amend.
- R-445 Fischer's Magazine, May, 1925. 32-page booklet. H. G. Fischer & Co.
- R-446 Apioline. E. Fougere & Co.
- R-447 A Short Historical Sketch, Elementary Physics and Reasons for Quartz Light Therapy, by Leo C. Donnelly, M.D., 607 Kresge Bldg., Detroit, Mich. Hanovia Chemical & Mfg. Co.
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